

# **ACTION Registry-GWTG New User Training**

## **Maryland Health Care Commission**

### **June 29, 2010**

Revised June 30, 2010

# Disclosure

*Susan Rogers RN, MSN, has nothing to disclose*

*Kim Hustler RN, has nothing to disclose*

## Objectives

1. Verbalize how to get started utilizing the ACTION Registry-GWTG tools
2. Describe how to maneuver through the ACTION Registry-GWTG website
3. Discuss the DQR process
4. Describe the ACTION Registry-GWTG recognition process

# The History Behind the **ACTION Registry-GWTG**

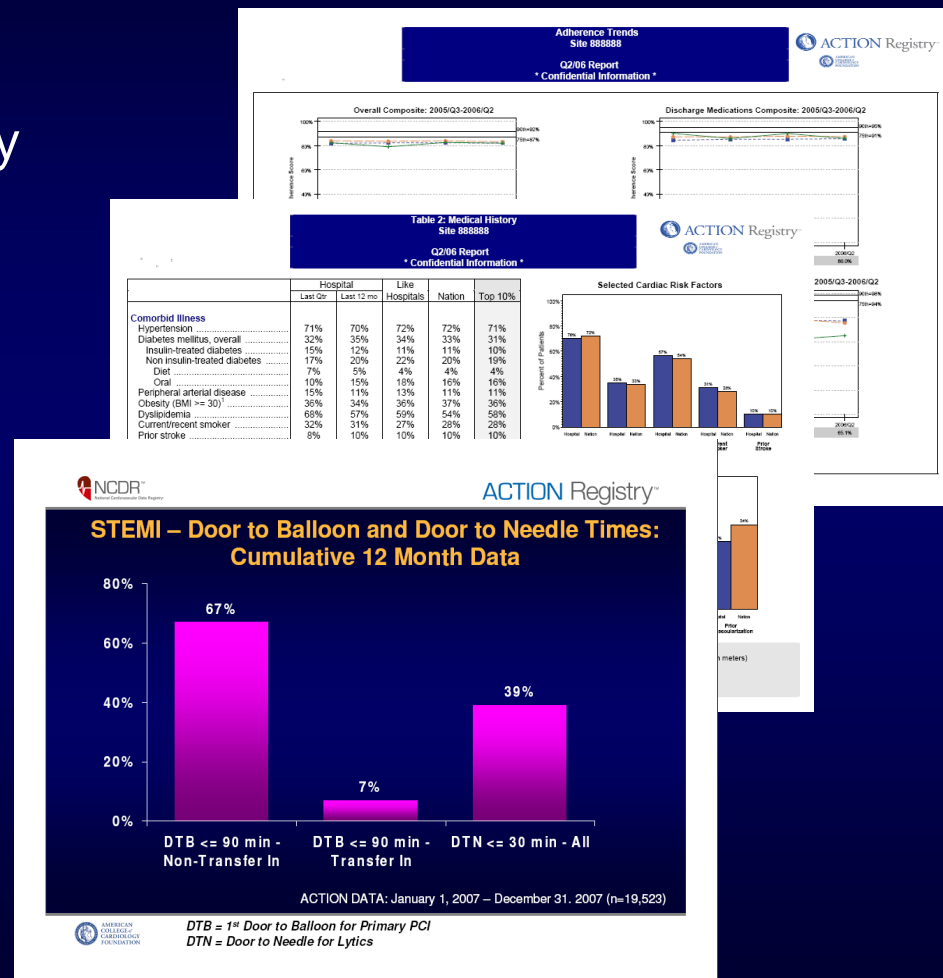
- ACTION Registry transitioned from CRUSADE and NRM1 Registries
- January 2007 ACTION was established
- May 2008 ACTION merged with AHA GWTG CAD to become

## ACTION Registry-GWTG

- Dec. 31, 2009 GWTG CAD sunset
- Current membership of 630 Hospitals
- Over 180,000 records submitted


# Quality Improvement Support in ACTION Registry - GWTG

- Risk adjusted, benchmarked Quarterly Institutional reports
- On-Demand reports for rapid cycle measurement
- NCDR/ACC resources on [Cardiosource.com](http://Cardiosource.com)
- AHA resources at [americanheart.org](http://americanheart.org)
- Monthly Webcasts and Registry site manager calls
- National/regional group meetings



# The ACTION Registry Website

## www.ncdr.com



**NCDR**<sup>®</sup>  
National Cardiovascular Data Registry

www.ncdr.com

Quality Improvement. Quantified.<sup>®</sup>

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[Software Vendors](#)  
[ACTION Registry<sup>®</sup> - GWTG<sup>™</sup>](#)  
[CARE Registry<sup>®</sup>](#)  
[CathPCI Registry<sup>®</sup>](#)  
[ICD Registry<sup>™</sup>](#)  
[IMPACT Registry<sup>™</sup>](#)  
[PINNACLE Registry<sup>™</sup> \(IC<sup>3</sup> Program<sup>®</sup>\)](#)  
[SPECT-MPI Pilot](#)

The NCDR<sup>®</sup>, an initiative of the American College of Cardiology Foundation<sup>®</sup>, began in 1997 to help health care provider groups and institutions respond to increasing requirements to document their processes and outcomes of care in the cath lab setting. Today, the NCDR is the most comprehensive, outcomes-based quality improvement program in the United States, encompassing both hospital-based registries and a practice-based program.

As a trusted, patient-centered resource, the NCDR is uniquely positioned to help participating facilities and other medical professionals identify and close gaps in quality of care; reduce wasteful and inefficient care variations; and implement effective, continuous quality improvement processes.

**NCDR in the News**

[Register now for the 11th Annual NCDR Meeting.](#)

**Hospital-based cardiovascular registries:**

**ACTION Registry<sup>®</sup>-GWTG<sup>™</sup>**  
For acute coronary syndrome patients

**CARE Registry<sup>®</sup>**  
For carotid artery revascularization and endarterectomy procedures

**CathPCI Registry<sup>®</sup>**  
For diagnostic cardiac catheterizations and percutaneous coronary interventions

**ICD Registry<sup>™</sup>**  
For implantable cardioverter defibrillators

**ICD Registry<sup>™</sup>**

**Countdown to Expansion**

**5 1**

days until the April 1 launch

**New features!**


Track data on

- ICD/CRT-D generators for primary and secondary prevention

# Data Collection Options

- Web-Based Data Capture
  - Secure, password-protected data entry system
  - Free NCDR data collection tool
  - Interoperability between AR-G and CathPCI Registry (2010)
- Vendor-Based Data Capture
  - Data submitted via encrypted, password-protected file
  - Interoperability between AR-G and CathPCI Registry
  - Interface with hospital EHR systems (where applicable)
  - Certified vendors include
    - Outcome Sciences, Inc.
    - LUMEDX (Interoperable)
    - Cedaron Medical, Inc. (Interoperable)
    - Heartbase
    - Armus

# About the ACTION Registry-GWTG Webpage


**NCDR**<sup>®</sup>  
 National Cardiovascular Data Registry

www.ncdr.com

*Quality Improvement. Quantified.*<sup>®</sup>

Administration | Reports | Data | Resources | \*Control\* | Search

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[CathPCI Registry<sup>®</sup>](#)  
[ICD Registry<sup>™</sup>](#)

**RENEWAL SEASON IS UPON US!**  
**Action is required - please read carefully below.**  
 Your 2010 Renewal Payment and Amendment (contract) are due no later than December 31, 2009.  
 Please note that extensions will not be granted.

Registry	Contract	Payment	Renewal Status
CathPCI	Completed	Completed	Fully Renewed for 2010
ICD	Completed	Completed	Fully Renewed for 2010
CARE	Completed	Completed	Fully Renewed for 2010
ACTION	Completed	Completed	Fully Renewed for 2010

**Your Renewal Documents will be available online!**  
 By October 7, 2009, you will be able to access your 2010 Invoice and Amendment (contract) via the NCDR File Delivery page.  
 If your facility is setup under a Corporate Account, the NCDR Account Management staff has already contacted your Corporate Billing Contact directly (no File Delivery has been loaded). All other facilities may now download these



# Vendors

Software Vendors				
Certified NCDR Software Vendor	ACTION Registry-GWTG	CARE Registry	CathPCI Registry	ICD Registry
<a href="#">Aqfa HealthCare</a>			v3_Certified 01/04/2005	
<a href="#">AMICAS, Inc. (formerly Emageon)</a>			v3_Certified 10/19/2004 v4_Certified 07/06/2009	
<a href="#">ARMUS Corporation</a>			v4_Certified 08/03/2009	
<a href="#">Axis Clinical Software, Inc.</a>			v3_Certified 07/02/2004 v4_Certified 06/17/2009	Certified 06/12/2006
<a href="#">CAOS-Intelligent Business Solutions</a>			v3_Certified 11/12/2004 v4_Certified 06/04/2009	
<a href="#">Cedaron Medical, Inc.</a>	Certified 01/15/2010	Certified 10/1/2008	v3_Certified 11/3/2004 v4_Certified 06/02/2009	Certified 07/20/2006
<a href="#">Cerner Corporation</a>			v3_Certified 02/28/2005 v4_Certified 10/16/2009	
<a href="#">Epic</a>			v3_Certified 01/18/2007 v4_Certified 06/09/2009	
<a href="#">GE Healthcare</a>			v3_Certified 11/16/2004 v4_Certified 03/06/2009	Certified 04/02/2007
<a href="#">Goodroe Healthcare Solutions, LLC</a>			v3_Certified 11/28/2006 v4_Certified 06/24/2009	Certified 09/10/2007
<a href="#">heartbase</a>		Certified 1/13/2009	v3_Certified 10/08/2004 v4_Certified 6/01/2009	Certified 07/26/2006
<a href="#">LUMEDX</a>	Certified 11/30/2009	Certified 9/10/2008	v3_Certified 07/19/2004 v4_Certified 06/01/2009	Certified 12/22/2006
<a href="#">McKesson (Formerly Medcon)</a>			v3_Certified 05/21/2004	
<a href="#">Medical Dynamics of S.C., Inc.</a>			v3_Certified 05/24/2004 v4_Certified 07/02/2009	
<a href="#">Outcome Sciences, Inc</a>	Certified 1/29/2009			

# Choosing the Right Tool

## Premier vs. Limited

# **ACTION Registry-GWTG Limited and Premier Forms**

- Approximately 140 fields vs. 280 in Premier
  - Simple/Average patient 60-80 fields vs. 100-150 in Premier
  - Complicated patient 80-100 fields vs. 150- 200 in Premier
  - Non PCI centers 60 fields vs. 100 in Premier
- Either form is available to all ACTION Registry-GWTG participants
- Strongly encourage participants to use Premier data set, especially PPCI capable centers
- The form specifications have been made available to all vendors

# Limited Tool Pros and Cons

## Pros

Fewer Data Elements

Less time required for data abstraction and entry

Accommodating for Non PCI Centers

Great form for new sites to start

## Cons

No Excessive dosing Reports for Anticoagulants

Lower Level of Recognition

Limited Quarterly Outcomes Report

Data not available to allow Physicians to participate in PACE project

# Premier Tool Pros and Cons

## Pros

Detailed Quarterly Excessive Dosing Reports for Anticoagulants

Higher level of Recognition

Robust Data Set

Full Quarterly Outcomes Report

Required if Physician participating in PACE PI-CME project

## Cons

More time required for data abstraction and entry

Answering fields that are less likely to pertain to Non-PCI Centers

# Inclusion Population

- Acute Myocardial Infarctions-STEMI & NSTEMI only
- Patient must present to 1<sup>st</sup> Facility with symptoms of ACS, within 24 hours of arrival
- If presents with any other symptoms, or procedures, the patient is excluded
- Patient must have positive ECG- ST elevation, new LBBB, or documented Posterior MI

OR

- Positive Biomarkers- Troponin or CK-MB
- Transfer In patients- STEMI must arrive within 72 hours, NSTEMI within 24 hours

# Demographics & Admission

ACTION Registry®-GWTG™		NCDR® ACTION Registry® v2.1 Acute Coronary Treatment and Intervention Outcomes Network Registry	
<p><small>Go to: Get step-by-step instructions for form features</small></p>			
<b>A. DEMOGRAPHICS</b>			
<b>Last Name</b> <sup>2000</sup> :		<b>First Name</b> <sup>2010</sup> :	
<b>Middle Name</b> <sup>2020</sup> :		<b>Birth Date</b> <sup>2050</sup> :	
<b>SSN</b> <sup>2030</sup> :	<input type="checkbox"/> SSN N/A <sup>2031</sup>	<b>Patient ID</b> <sup>2040</sup> :	<b>Other ID</b> <sup>2045</sup> :
<b>Race:</b> <input type="checkbox"/> White <sup>2070</sup> <input type="checkbox"/> Black/African American <sup>2071</sup> <input type="checkbox"/> Asian <sup>2072</sup> <small>(check all that apply)</small> <input type="checkbox"/> American Indian/Alaskan Native <sup>2073</sup> <input type="checkbox"/> Native Hawaiian/Pacific Islander <sup>2074</sup>		<b>Hispanic or Latino Ethnicity</b> <sup>2076</sup> : <input type="radio"/> No <input type="radio"/> Yes <b>Sex</b> <sup>2060</sup> : <input type="radio"/> Male <input type="radio"/> Female	
<b>B. ADMISSION</b>			
<b>Patient Zip Code</b> <sup>3000</sup> :		<input type="checkbox"/> Zip Code N/A <sup>3001</sup>	
<b>Means of Transport to First Facility</b> <sup>3100</sup> : <input type="radio"/> Self/Family <input type="radio"/> Ambulance <input type="radio"/> Mobile ICU <input type="radio"/> Air → If Ambulance or Mobile ICU or Air, Pre-Arrival 1st Med. Contact Date/Time <sup>3105, 3106</sup> : _____ <input type="checkbox"/> Time Estimated <sup>3107</sup>			
<b>Transferred from Outside Facility</b> <sup>3110</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Means of Transfer <sup>3115</sup> : <input type="radio"/> Ambulance <input type="radio"/> Mobile ICU <input type="radio"/> Air → If Yes, Arrival at Outside Facility Date/Time <sup>3120, 3121</sup> : _____ <input type="checkbox"/> Time Estimated <sup>3122</sup> → If Yes, Transfer from Outside Facility Date/Time <sup>3125, 3126</sup> : _____ <input type="checkbox"/> Time Estimated <sup>3127</sup> → If Yes, Name of Transferring Facility/AHA Number <sup>3150, 3151</sup> : _____			
<b>Your Facility</b>	<b>Arrival Date/Time</b> <sup>3200, 3201</sup> :		<b>Location of First Evaluation</b> <sup>3220</sup> : <input type="radio"/> ED <input type="radio"/> Cath Lab <input type="radio"/> Other
	<b>Admission Date</b> <sup>3210</sup> :		→ If ED, Transfer Out Date/Time <sup>3221, 3222</sup> : _____
	<b>Insurance Payors:</b> <input type="checkbox"/> Private Health Insurance <sup>3300</sup> <input type="checkbox"/> Medicare <sup>3301</sup> <input type="checkbox"/> Medicaid <sup>3302</sup> <input type="checkbox"/> Military Health Care <sup>3303</sup> <small>(check all that apply)</small> <input type="checkbox"/> State-Specific Plan (non-Medicaid) <sup>3304</sup> <input type="checkbox"/> Indian Health Service <sup>3305</sup> <input type="checkbox"/> Non-US Insurance <sup>3306</sup> <input type="checkbox"/> None <sup>3307</sup>		
	<b>HIC #</b> <sup>3320</sup> :		
<b>C. CARDIAC STATUS ON FIRST MEDICAL CONTACT</b>			

# Cardiac Status & History

C. CARDIAC STATUS ON FIRST MEDICAL CONTACT			
Symptom Onset Date/Time <sup>4000, 4001</sup> :		<input type="checkbox"/> Time Estimated <sup>4002</sup> <input type="checkbox"/> Time Not Available <sup>4003</sup>	
First ECG Obtained <sup>4010</sup> : <input type="radio"/> Pre-Hospital (e.g. ambulance) <input type="radio"/> After 1st hosp. arrival		First ECG Date/Time <sup>4020, 4021</sup> :	
STEMI or STEMI Equivalent <sup>4030</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, ECG Findings <sup>4040</sup> : <input type="radio"/> ST elevation <input type="radio"/> LBBB (new or presumed new) <input type="radio"/> Isolated posterior MI			
→ If Yes, STEMI or STEMI Equivalent First Noted <sup>4041</sup> : <input type="radio"/> First ECG <input type="radio"/> Subsequent ECG			
→ If Subsequent ECG, Subsequent ECG with STEMI or STEMI Equivalent Date/Time <sup>4042, 4043</sup> : _____			
→ If No, Other ECG Findings <sup>4044</sup> : (demonstrated within first 24 hours of medical contact) <input type="radio"/> New or presumed new ST depression <input type="radio"/> New or presumed new T-Wave inversion <input type="radio"/> Transient ST elevation lasting < 20 minutes <input type="radio"/> None			
Heart Failure <sup>4100</sup> :	<input type="radio"/> No <input type="radio"/> Yes	Heart Rate <sup>4120</sup> :	(bpm) Systolic BP <sup>4130</sup> : (mmHg)
Cardiogenic Shock <sup>4110</sup> :	<input type="radio"/> No <input type="radio"/> Yes	Cocaine Use <sup>4115</sup> :	<input type="radio"/> No <input type="radio"/> Yes
D. HISTORY AND RISK FACTORS			
Height <sup>5000</sup> :	(cm)	Prior MI <sup>5080</sup> :	<input type="radio"/> No <input type="radio"/> Yes
Weight <sup>5010</sup> :	(kg)	Prior Heart Failure (previous Hx) <sup>5090</sup> :	<input type="radio"/> No <input type="radio"/> Yes
Current/Recent Smoker (< 1 year) <sup>5020</sup> :	<input type="radio"/> No <input type="radio"/> Yes	Prior PCI <sup>5100</sup> :	<input type="radio"/> No <input type="radio"/> Yes
Hypertension <sup>5030</sup> :	<input type="radio"/> No <input type="radio"/> Yes	→ If Yes, Most Recent PCI Date <sup>5101</sup> :	_____
Dyslipidemia <sup>5040</sup> :	<input type="radio"/> No <input type="radio"/> Yes	Prior CABG <sup>5110</sup> :	<input type="radio"/> No <input type="radio"/> Yes
Currently on Dialysis <sup>5050</sup> :	<input type="radio"/> No <input type="radio"/> Yes	→ If Yes, Most Recent CABG Date <sup>5111</sup> :	_____
Chronic Lung Disease <sup>5060</sup> :	<input type="radio"/> No <input type="radio"/> Yes	Atrial Fibrillation or Flutter (past 2 wks) <sup>5120</sup> :	<input type="radio"/> No <input type="radio"/> Yes
Diabetes Mellitus <sup>5070</sup> :	<input type="radio"/> No <input type="radio"/> Yes	Cerebrovascular Disease <sup>5130</sup> :	<input type="radio"/> No <input type="radio"/> Yes
→ If Yes, Diabetes Therapy <sup>5071</sup> :	<input type="radio"/> None <input type="radio"/> Diet <input type="radio"/> Oral <input type="radio"/> Insulin <input type="radio"/> Other	→ If Yes, Prior Stroke <sup>5131</sup> :	<input type="radio"/> No <input type="radio"/> Yes
		Peripheral Arterial Disease <sup>5140</sup> :	<input type="radio"/> No <input type="radio"/> Yes



# Medications

## E. MEDICATIONS

### Oral Medications

Medication	Home Meds	Medications Administered in First 24 Hours (Up to 24 hours after first medical contact*)	Medications Prescribed At Hospital Discharge (do not code for patients who die or are AMA or are transferred to another hospital)
<b>Aspirin</b> <sup>6000-6021</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Start Date/Time: _____ * Note: code "Yes" for Aspirin if admin. 24 hrs before or after first medical contact	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Dose: _____mg
<b>Clopidogre</b> <sup>6050-6072</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Start Date/Time: _____ → If Yes, Dose: _____mg	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Dose: _____mg → If Yes, Recommended Duration: _____mos.
<b>Ticlopidine</b> <sup>6100-6122</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Start Date/Time: _____ → If Yes, Dose: _____mg	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Dose: _____mg → If Yes, Recommended Duration: _____mos.
<b>Prasugrel</b> <sup>6150-6172</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Start Date/Time: _____ → If Yes, Dose: _____mg	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Dose: _____mg → If Yes, Recommended Duration: _____mos.
<b>Warfarin</b> <sup>6200-6220</sup>	<input type="radio"/> No <input type="radio"/> Yes		<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded
<b>Beta Blocker</b> <sup>6250-6270</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, Start Date/Time: _____	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded
<b>ACE Inhibitor</b> <sup>6300-6320</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded
<b>Angiotensin Receptor Blocker</b> <sup>6350-6370</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded
<b>Aldosterone Blocking Agent</b> <sup>6400-6420</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded
<b>Statin</b> <sup>6450-6470</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded
<b>Non-Statin Lipid-Lowering Agent</b> <sup>6500-6520</sup>	<input type="radio"/> No <input type="radio"/> Yes	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded

# Anticoagulants

## Intravenous and Subcutaneous Medications

Category	Medications Administered														
<b>GP IIb/IIIa Inhibitor</b> <sup>6800</sup>  (any time during this hospitalization)	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, <b>Medication Type</b> <sup>6801</sup> : <input type="radio"/> Eptifibatide <input type="radio"/> Tirofiban <input type="radio"/> Abciximab → If Yes, <b>Start Date/Time</b> <sup>6802, 6803</sup> : _____ → If Yes, <b>Stop Date/Time</b> <sup>6804, 6805</sup> : _____ → If Eptifibatide or Tirofiban, <b>Dose</b> <sup>6806</sup> : <input type="radio"/> Full <input type="radio"/> Reduced <input type="radio"/> Other														
<b>Anticoagulant</b> <sup>6850</sup>	<input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Contraindicated <input type="radio"/> Blinded → If Yes, <b>Medication Type(s)</b> : <table border="0" style="width: 100%;"> <tr> <td><input type="checkbox"/> IV Unfractionated Heparin<sup>6851</sup></td><td> <b>Start Date/Time</b><sup>6852, 6853</sup>: _____  <b>Initial Bolus</b><sup>6854</sup>:   <input type="radio"/> No   <input type="radio"/> Yes   → If Yes, <b>Initial Bolus Dose</b><sup>6855</sup>: _____ units  <b>Initial Infusion</b><sup>6856</sup>:   <input type="radio"/> No   <input type="radio"/> Yes   → If Yes, <b>Initial Infusion Dose</b><sup>6857</sup>: _____ units/hr               </td></tr> <tr> <td><input type="checkbox"/> Enoxaparin (LMWH)<sup>6860</sup></td><td> <b>Start Date/Time</b><sup>6861, 6862</sup>: _____ <b>Initial SubQ Dose</b><sup>6863</sup>: _____ mg  <b>Initial IV Bolus</b><sup>6864</sup>:   <input type="radio"/> No   <input type="radio"/> Yes   <b>Injection Freq.</b><sup>6865</sup>:   <input type="radio"/> q12hr   <input type="radio"/> q24hr   <input type="radio"/> None               </td></tr> <tr> <td><input type="checkbox"/> Dalteparin (LMWH)<sup>6870</sup></td><td> <b>Start Date/Time</b><sup>6871, 6872</sup>: _____ <b>Initial SubQ Dose</b><sup>6873</sup>: _____ units               </td></tr> <tr> <td><input type="checkbox"/> Bivalirudin<sup>6875</sup></td><td> <b>Start Date/Time</b><sup>6876, 6877</sup>: _____               </td></tr> <tr> <td><input type="checkbox"/> Fondaparinux<sup>6880</sup></td><td> <b>Start Date/Time</b><sup>6881, 6882</sup>: _____               </td></tr> <tr> <td><input type="checkbox"/> Argatroban<sup>6885</sup></td><td> <b>Start Date/Time</b><sup>6886, 6887</sup>: _____               </td></tr> <tr> <td><input type="checkbox"/> Lepirudin<sup>6890</sup></td><td> <b>Start Date/Time</b><sup>6891, 6892</sup>: _____               </td></tr> </table>	<input type="checkbox"/> IV Unfractionated Heparin <sup>6851</sup>	<b>Start Date/Time</b> <sup>6852, 6853</sup> : _____ <b>Initial Bolus</b> <sup>6854</sup> : <input type="radio"/> No <input type="radio"/> Yes   → If Yes, <b>Initial Bolus Dose</b> <sup>6855</sup> : _____ units <b>Initial Infusion</b> <sup>6856</sup> : <input type="radio"/> No <input type="radio"/> Yes   → If Yes, <b>Initial Infusion Dose</b> <sup>6857</sup> : _____ units/hr	<input type="checkbox"/> Enoxaparin (LMWH) <sup>6860</sup>	<b>Start Date/Time</b> <sup>6861, 6862</sup> : _____ <b>Initial SubQ Dose</b> <sup>6863</sup> : _____ mg <b>Initial IV Bolus</b> <sup>6864</sup> : <input type="radio"/> No <input type="radio"/> Yes <b>Injection Freq.</b> <sup>6865</sup> : <input type="radio"/> q12hr <input type="radio"/> q24hr <input type="radio"/> None	<input type="checkbox"/> Dalteparin (LMWH) <sup>6870</sup>	<b>Start Date/Time</b> <sup>6871, 6872</sup> : _____ <b>Initial SubQ Dose</b> <sup>6873</sup> : _____ units	<input type="checkbox"/> Bivalirudin <sup>6875</sup>	<b>Start Date/Time</b> <sup>6876, 6877</sup> : _____	<input type="checkbox"/> Fondaparinux <sup>6880</sup>	<b>Start Date/Time</b> <sup>6881, 6882</sup> : _____	<input type="checkbox"/> Argatroban <sup>6885</sup>	<b>Start Date/Time</b> <sup>6886, 6887</sup> : _____	<input type="checkbox"/> Lepirudin <sup>6890</sup>	<b>Start Date/Time</b> <sup>6891, 6892</sup> : _____
<input type="checkbox"/> IV Unfractionated Heparin <sup>6851</sup>	<b>Start Date/Time</b> <sup>6852, 6853</sup> : _____ <b>Initial Bolus</b> <sup>6854</sup> : <input type="radio"/> No <input type="radio"/> Yes   → If Yes, <b>Initial Bolus Dose</b> <sup>6855</sup> : _____ units <b>Initial Infusion</b> <sup>6856</sup> : <input type="radio"/> No <input type="radio"/> Yes   → If Yes, <b>Initial Infusion Dose</b> <sup>6857</sup> : _____ units/hr														
<input type="checkbox"/> Enoxaparin (LMWH) <sup>6860</sup>	<b>Start Date/Time</b> <sup>6861, 6862</sup> : _____ <b>Initial SubQ Dose</b> <sup>6863</sup> : _____ mg <b>Initial IV Bolus</b> <sup>6864</sup> : <input type="radio"/> No <input type="radio"/> Yes <b>Injection Freq.</b> <sup>6865</sup> : <input type="radio"/> q12hr <input type="radio"/> q24hr <input type="radio"/> None														
<input type="checkbox"/> Dalteparin (LMWH) <sup>6870</sup>	<b>Start Date/Time</b> <sup>6871, 6872</sup> : _____ <b>Initial SubQ Dose</b> <sup>6873</sup> : _____ units														
<input type="checkbox"/> Bivalirudin <sup>6875</sup>	<b>Start Date/Time</b> <sup>6876, 6877</sup> : _____														
<input type="checkbox"/> Fondaparinux <sup>6880</sup>	<b>Start Date/Time</b> <sup>6881, 6882</sup> : _____														
<input type="checkbox"/> Argatroban <sup>6885</sup>	<b>Start Date/Time</b> <sup>6886, 6887</sup> : _____														
<input type="checkbox"/> Lepirudin <sup>6890</sup>	<b>Start Date/Time</b> <sup>6891, 6892</sup> : _____														

# Procedures

## F. PROCEDURES AND TESTS

**Non-invasive Stress Testing**<sup>7000</sup>: ☐ No ☐ Yes → If Yes, Date<sup>7001</sup>: \_\_\_\_\_ **LVEF**<sup>7010</sup>: % ☐ **LVEF Not Assessed**<sup>7011</sup>

**Diagnostic Coronary Angiography**<sup>7020</sup>: ☐ No ☐ Yes → If Yes, Angiography Date/Time<sup>7021, 7022</sup>: \_\_\_\_\_

→ If Yes, Best Estimate of Coronary Anatomy:

Coronary Territory	Coronary Artery Stenosis	Coronary Territory	Coronary Artery Stenosis
Left Main <sup>7023</sup> :	% <input type="checkbox"/> Not Available <sup>7024</sup>	CIRC, OMs, LPDA & LPL Branches <sup>7029</sup> :	% <input type="checkbox"/> Not Available <sup>7030</sup>
Prox. LAD <sup>7025</sup> :	% <input type="checkbox"/> Not Available <sup>7026</sup>	RCA, RPDA, RPL, AM Branches <sup>7031</sup> :	% <input type="checkbox"/> Not Available <sup>7032</sup>
Mid/Distal LAD, Diag Branches <sup>7027</sup> :	% <input type="checkbox"/> Not Available <sup>7028</sup>	Ramus <sup>7033</sup> :	% <input type="checkbox"/> Not Available <sup>7034</sup>

→ If No, Diagnostic Cath Contraindication<sup>7035</sup>: ☐ No ☐ Yes

**PCI**<sup>7100</sup>: ☐ No ☐ Yes

→ If Yes, Cath Lab Arrival Date/Time<sup>7101, 7102</sup>: \_\_\_\_\_

→ If Yes, First Device Activation Date/Time<sup>7103, 7104</sup>: \_\_\_\_\_

→ If Yes, Stent(s) Placed<sup>7105</sup>: ☐ No ☐ Yes → If Yes, Stent Type(s): ☐ Bare metal stent<sup>7106</sup> ☐ Drug eluting stent<sup>7107</sup> ☐ Other<sup>7108</sup>

→ If Yes, PCI Indication<sup>7109</sup>: ☐ Immediate, primary PCI for STEMI ☐ Rescue PCI (after failed full-dose lytics for STEMI)

☐ PCI for NSTEMI ☐ Stable, successful reperfusion for STEMI, or completed infarction post-STEMI ☐ Other

→ If Immediate, Primary PCI for STEMI, Non-System Reason for Delay in PCI<sup>7110</sup>:

☐ Difficult vascular access

☐ Cardiac arrest and/or need for intubation before PCI

☐ Patient delays in providing consent for the procedure

☐ Difficulty crossing the culprit lesion during the PCI procedure

☐ Other

☐ None

**CABG**<sup>7200</sup>: ☐ No ☐ Yes

→ If Yes, CABG Date/Time<sup>7201, 7202</sup>: \_\_\_\_\_

# Thrombolytics

## G. REPERFUSION STRATEGY (IMMEDIATE REPERFUSION)

**Was Patient a Reperfusion Candidate<sup>8000</sup>** ☐ No ☐ Yes

→ If No, Primary Reason<sup>8010</sup>:

- |   |   |
|---|---|
| <input type="radio"/> Non-compressible vascular puncture(s)               | <input type="radio"/> Significant closed head or facial trauma within previous 3 months       |
| <input type="radio"/> Active bleeding on arrival or within 24 hours       | <input type="radio"/> Prior allergic reaction to thrombolytics or IV contrast                 |
| <input type="radio"/> Known bleeding diathesis                            | <input type="radio"/> Current use of oral anticoagulants                                      |
| <input type="radio"/> Recent bleeding within previous 4 weeks             | <input type="radio"/> Active peptic ulcer   |
| <input type="radio"/> History of CVA                                      | <input type="radio"/> Quality of life decision  |
| <input type="radio"/> Recent surgery/trauma                               | <input type="radio"/> Comorbid disease  |
| <input type="radio"/> Intracranial neoplasm, AV malformation, or aneurysm | <input type="radio"/> Traumatic CPR that precludes thrombolytics                              |
| <input type="radio"/> Severe uncontrolled hypertension                    | <input type="radio"/> Anatomy not suitable to primary PCI                                     |
| <input type="radio"/> No ST elevation/LBBB                                | <input type="radio"/> Spontaneous reperfusion (documented by cath only)                       |
| <input type="radio"/> ST elevation resolved                               | <input type="radio"/> Patient/family refusal  |
| <input type="radio"/> MI diagnosis unclear                                | <input type="radio"/> DNR at time of treatment decision                                       |
| <input type="radio"/> MI symptoms onset >12 hours                         | <input type="radio"/> Ischemic stroke w/in 3 months except acute ischemic stroke w/in 3 hours |
| <input type="radio"/> Chest pain resolved                                 | <input type="radio"/> Any prior intracranial hemorrhage                                       |
| <input type="radio"/> No chest pain                                       | <input type="radio"/> Pregnancy   |
| <input type="radio"/> Suspected aortic dissection                         | <input type="radio"/> Other (Not Listed)  |

→ If Yes, Thrombolytics<sup>8020</sup>: ☐ No ☐ Yes → If Yes, Strength of Dose<sup>8021</sup>: ☐ Full dose ☐ Reduced dose

→ If Yes, Type of Thrombolytics<sup>8022</sup>: ☐ Tenecteplase ☐ Alteplase ☐ Reteplase ☐ Streptokinase ☐ Other

→ If Yes, Dose Start Date/Time<sup>8023, 8024</sup>: \_\_\_\_\_

→ If Yes, Non-System Reason for Delay<sup>8025</sup>: ☐ No ☐ Yes

# Clinical Events & Biomarkers

## H. IN-HOSPITAL CLINICAL EVENTS

<b>Reinfarction<sup>9000</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date <sup>9001</sup> : _____	<b>Suspected Bleeding Event<sup>9040</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Suspected Bleeding Event Date <sup>9041</sup> : _____
<b>Cardiogenic Shock<sup>9010</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date <sup>9011</sup> : _____	→ If Yes, Bleeding Event Location (check all that apply): <input type="checkbox"/> Access Site <sup>9042</sup> <input type="checkbox"/> Retroperitoneal <sup>9043</sup> <input type="checkbox"/> GI <sup>9044</sup> <input type="checkbox"/> GU <sup>9045</sup> <input type="checkbox"/> Other <sup>9046</sup>
<b>Heart Failure<sup>9020</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date <sup>9021</sup> : _____	→ If Yes, Surgical Procedure or Intervention Required <sup>9047</sup> : <input type="radio"/> No <input type="radio"/> Yes
<b>CVA/Stroke<sup>9030</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date <sup>9031</sup> : _____ → If Yes, Hemorrhagic <sup>9032</sup> : <input type="radio"/> No <input type="radio"/> Yes	<b>RBC/Whole Blood Transfusion<sup>9050</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, First Transfusion Date <sup>9051</sup> : _____ → If Yes, CABG-Related Transfusion <sup>9052</sup> : <input type="radio"/> No <input type="radio"/> Yes

## I. LABORATORY RESULTS

### CARDIAC MARKERS

**Positive Cardiac Markers Within First 24 Hours<sup>10000</sup>:** ☐ No ☐ Yes

	Troponin	CK-MB
<b>Initial</b>	<b>Collected<sup>10010</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes – I <input type="radio"/> Yes – T → If Yes, Date/Time <sup>10011, 10012</sup> : _____ → If Yes, Value <sup>10013</sup> : _____ (ng/mL) → URL <sup>10014</sup> : _____	<b>Collected<sup>10020</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10021, 10022</sup> : _____ → If Yes, Value <sup>10023</sup> : _____ <input type="radio"/> IU/L <input type="radio"/> % <input type="radio"/> (mg/mL)/IU <input type="radio"/> ng/mL → ULN <sup>10025</sup> : _____
<b>Peak</b>	<b>Collected<sup>10030</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes – I <input type="radio"/> Yes – T → If Yes, Date/Time <sup>10031, 10032</sup> : _____ → If Yes, Value <sup>10033</sup> : _____ (ng/mL) → URL <sup>10034</sup> : _____	<b>Collected<sup>10040</sup>:</b> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10041, 10042</sup> : _____ → If Yes, Value <sup>10043</sup> : _____ <input type="radio"/> IU/L <input type="radio"/> % <input type="radio"/> (mg/mL)/IU <input type="radio"/> ng/mL → ULN <sup>10045</sup> : _____

# Labs

<b>Peak</b>	→ If Yes, Value <sup>10033</sup> : _____ (ng/mL) → URL <sup>10034</sup> : _____	→ If Yes, Value <sup>10043</sup> : _____ <input type="radio"/> IU/L <input type="radio"/> % <input type="radio"/> (mg/mL)/IU <input type="radio"/> ng/mL → ULN <sup>10045</sup> : _____
<b>CREATININE</b>		
<b>Initial</b>	Collected <sup>10100</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10101, 10102</sup> : _____ → If Yes, Value <sup>10103</sup> : _____ (mg/dL)	<b>Peak</b> Collected <sup>10110</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10111, 10112</sup> : _____ → If Yes, Value <sup>10113</sup> : _____ (mg/dL)
<b>HEMOGLOBIN</b>		
<b>Initial</b>	Collected <sup>10150</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10151, 10152</sup> : _____ → If Yes, Value <sup>10153</sup> : _____ (g/dL)	<b>Lowest</b> Collected <sup>10200</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10201, 10202</sup> : _____ → If Yes, Value <sup>10203</sup> : _____ (g/dL)
<b>INITIAL HEMOGLOBIN A1c</b>		
Collected <sup>10250</sup> <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10251, 10252</sup> : _____ → If Yes, Value <sup>10253</sup> : _____ %		
<b>INITIAL INR</b>		
Collected <sup>10300</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10301, 10302</sup> : _____ → If Yes, Value <sup>10303</sup> : _____		
<b>LIPIDS (mg/dL)</b>		
Panel Performed <sup>10350</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Date/Time <sup>10351, 10352</sup> : _____ <input type="checkbox"/> Value Out of Range <sup>10360</sup> → If Yes, TC <sup>10353</sup> : _____ → If Yes, HDL <sup>10354</sup> : _____ → If Yes, LDL <sup>10355</sup> : _____ → If Yes, Triglycerides <sup>10356</sup> : _____		
<b>INITIAL BNP</b>		<b>INITIAL NT-PROBNP</b>
Collected <sup>10400</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Value <sup>10401</sup> : _____ (pg/mL)		Collected <sup>10405</sup> : <input type="radio"/> No <input type="radio"/> Yes → If Yes, Value <sup>10406</sup> : _____ (pg/mL)



# Discharge

**ACTION Registry**<sup>®</sup>-GWTG<sup>™</sup>
**NCDR<sup>®</sup> ACTION Registry<sup>®</sup> v2.1**  
 Acute Coronary Treatment and Intervention Outcomes Network Registry

**J. DISCHARGE**
**Discharge Date<sup>11000</sup>:**
**Comfort Measures Only<sup>11010</sup>:** ☐ No ☐ Yes

**Enrolled in Clinical Trial During Hospitalization<sup>11020</sup>:** ☐ No ☐ Yes

**Discharge Status<sup>11100</sup>:** ☐ Alive ☐ Deceased

 → **If Alive, Smoking Counseling<sup>11101</sup>:** ☐ No ☐ Yes

 → **If Alive, Dietary Modification Counseling<sup>11102</sup>:** ☐ No ☐ Yes ☐ N/A

 → **If Alive, Exercise Counseling<sup>11103</sup>:** ☐ No ☐ Yes ☐ Ineligible

 → **If Alive, Cardiac Rehabilitation Referral<sup>11104</sup>:** ☐ No ☐ Yes ☐ Ineligible

 → **If Alive, Discharge Location<sup>11105</sup>:** ☐ Home ☐ Extended care/transitional care unit ☐ Other hospital  
☐ Nursing home ☐ Hospice ☐ Other ☐ Left against medical advice (AMA)

 → **If Other Hospital, Transfer Time<sup>11106</sup>:** \_\_\_\_\_

 → **If Other Hospital, Transfer for PCI<sup>11107</sup>:** ☐ No ☐ Yes

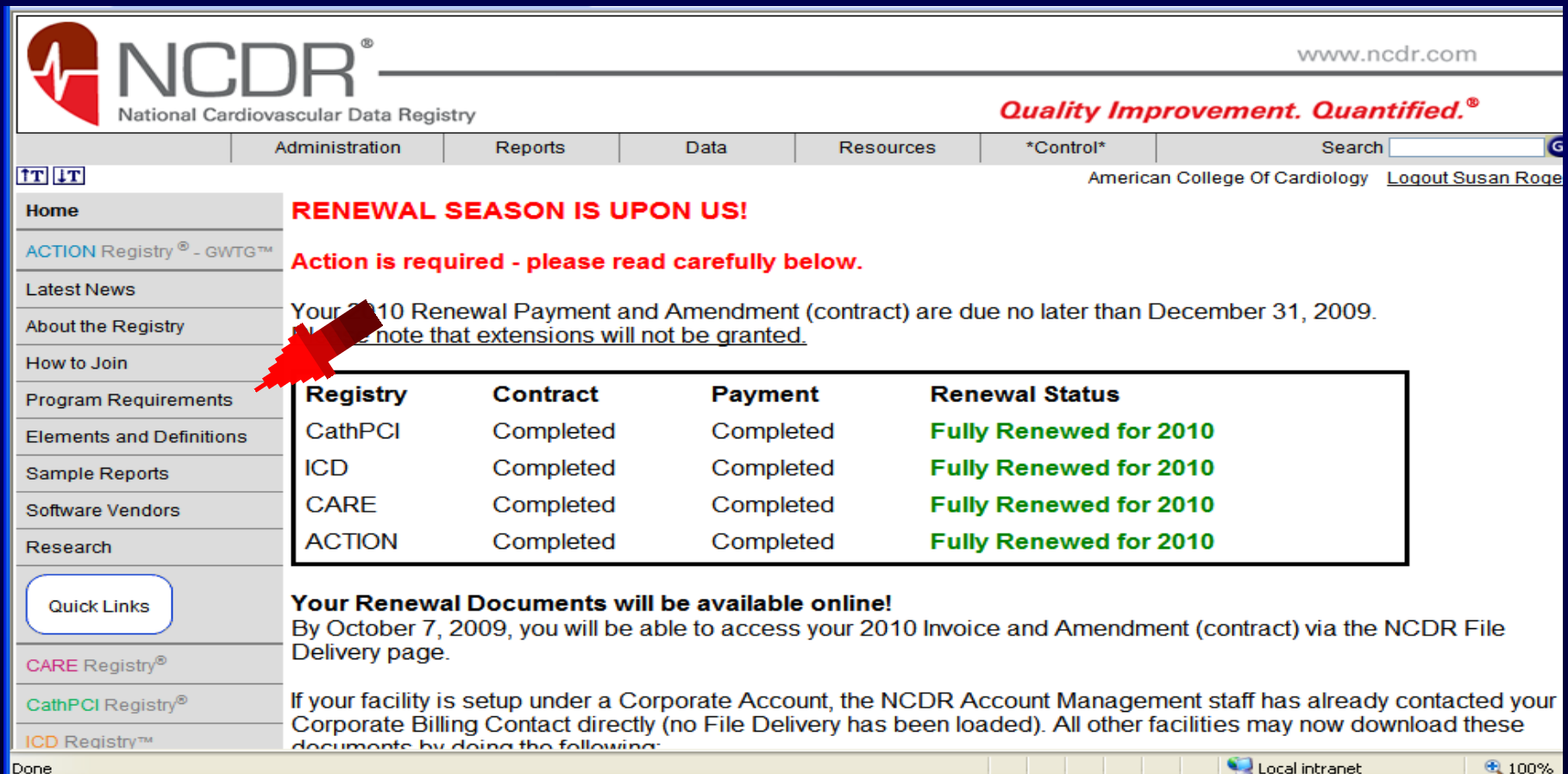
 → **If Other Hospital, Transfer for CABG<sup>11108</sup>:** ☐ No ☐ Yes

 → **If Deceased, Cause of Death<sup>11150</sup>:** ☐ Cardiac ☐ Non-cardiac

 → **If Deceased, Time of Death<sup>11151</sup>:** \_\_\_\_\_

**K. OPTIONAL ELEMENTS (FOR AMI CORE MEASURE REPORTING ONLY)**
**Point of Origin<sup>12000</sup>:** ☐ Non-health care facility ☐ Court/law enforcement  
☐ Clinic ☐ Information not available  
☐ Transfer from a hospital (different facility) ☐ D: Transfer from one distinct unit of the hospital to another

# About the ACTION Registry-GWTG Webpage



The screenshot shows the NCDR website with a prominent red banner stating "RENEWAL SEASON IS UPON US!". A red arrow points to the "ACTION" row in a table of registry renewals. The table indicates that the ACTION registry is "Fully Renewed for 2010". Below the table, a message states that renewal documents will be available online by October 7, 2009.

**RENEWAL SEASON IS UPON US!**

Action is required - please read carefully below.

Your 2010 Renewal Payment and Amendment (contract) are due no later than December 31, 2009. Please note that extensions will not be granted.


Registry	Contract	Payment	Renewal Status
CathPCI	Completed	Completed	Fully Renewed for 2010
ICD	Completed	Completed	Fully Renewed for 2010
CARE	Completed	Completed	Fully Renewed for 2010
ACTION	Completed	Completed	Fully Renewed for 2010

**Your Renewal Documents will be available online!**  
By October 7, 2009, you will be able to access your 2010 Invoice and Amendment (contract) via the NCDR File Delivery page.

If your facility is setup under a Corporate Account, the NCDR Account Management staff has already contacted your Corporate Billing Contact directly (no File Delivery has been loaded). All other facilities may now download these documents by doing the following:



# ARG Tools and Data Elements


**NCDR**<sup>®</sup>  
National Cardiovascular Data Registry

www.ncdr.com

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 Software Vendors
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 CARE Registry<sup>®</sup>
 CathPCI Registry<sup>®</sup>
 ICD Registry<sup>™</sup>

## Elements and Definitions

### What Data is Collected in the ACTION Registry<sup>®</sup> - GWTG<sup>™</sup>?

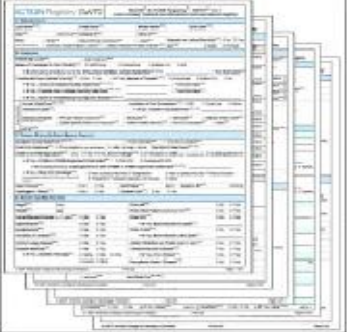

**ACTION Registry<sup>®</sup> - GWTG<sup>™</sup>**  
Dataset Version 2.1


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(updated: 11/05/2009)

[Download Limited Form](#)  
(updated: 11/05/2009)

[Download Elements\\*](#)  
(updated: 04/01/2009)

[Download Program Summary\\*](#)  
(updated: 12/03/2009)

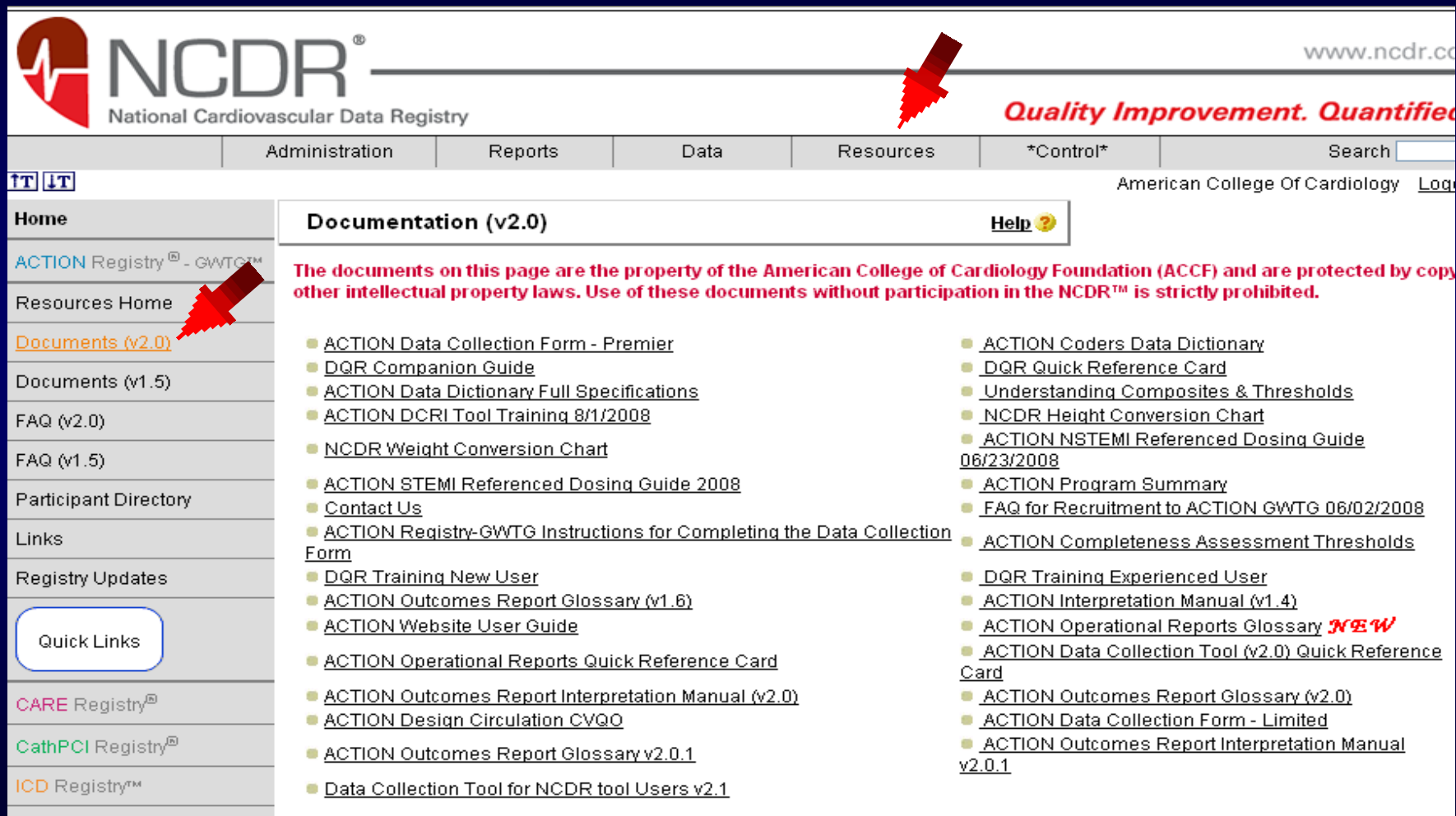



 **Adobe Reader**

\* Requires Adobe Reader 7.0

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# Documents to assist



**NCDR**<sup>®</sup>  
National Cardiovascular Data Registry

www.ncdr.org

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Administration Reports Data Resources \*Control\* Search

Home Documentation (v2.0) Help

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- [ACTION Data Collection Form - Premier](#)
- [DQR Companion Guide](#)
- [ACTION Data Dictionary Full Specifications](#)
- [ACTION DCRI Tool Training 8/1/2008](#)
- [NCDR Weight Conversion Chart](#)
- [ACTION STEMI Referenced Dosing Guide 2008](#)
- [Contact Us](#)
- [ACTION Registry-GWTG Instructions for Completing the Data Collection Form](#)
- [DQR Training New User](#)
- [ACTION Outcomes Report Glossary \(v1.6\)](#)
- [ACTION Website User Guide](#)
- [ACTION Operational Reports Quick Reference Card](#)
- [ACTION Outcomes Report Interpretation Manual \(v2.0\)](#)
- [ACTION Design Circulation CVQO](#)
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- [NCDR Height Conversion Chart](#)
- [ACTION NSTEMI Referenced Dosing Guide 06/23/2008](#)
- [ACTION Program Summary](#)
- [FAQ for Recruitment to ACTION GWTG 06/02/2008](#)
- [ACTION Completeness Assessment Thresholds](#)
- [DQR Training Experienced User](#)
- [ACTION Interpretation Manual \(v1.4\)](#)
- [ACTION Operational Reports Glossary \*\*NEW\*\*](#)
- [ACTION Data Collection Tool \(v2.0\) Quick Reference Card](#)
- [ACTION Outcomes Report Glossary \(v2.0\)](#)
- [ACTION Data Collection Form - Limited](#)
- [ACTION Outcomes Report Interpretation Manual v2.0.1](#)

# The Data Dictionary

**Seq. #: 10013 Name: Initial Troponin Value**

**Coding Instructions:** Indicate the initial troponin value in ng/mL.

**Note(s):**

If value is reported using a < symbol (e.g., < 0.02), record the number only (e.g., 0.02).

If patient was transferred in, data available from the transferring facility should take precedence

**Target Value:** The first value between arrival at first facility and 24 hours after arrival at first facility

**Selections:** (none)

**Supporting Definitions:** (none)

## Technical Specifications

**Short Name:** InitTropValue

**Parent Seq #:** 10010

**Parent Name:** Initial Troponin  
Collected

**Parent Value:** Yes - I, Yes - T

**Missing Data:** Report

**Harvested:** Yes (ARGL)

**Format:** Decimal (6,2)

**Default Value:** NULL

**Usual Range:** 0.00-1000.00

**Valid Range:** 0.00-5000.00

**Data Source:** User

# ACTION STEMI Referenced Dosing Guide



## STEMI INITIAL DOSING GUIDE (Referenced Version)

This **dosing guide** lists initial drugs and doses that should be highly considered based upon recent guidelines, emerging guidelines and medication package inserts.

### WEIGHT AND CREATININE CLEARANCE

1. Determine patient's weight (kg).
2. CrCl ml/min = (140 – age) X weight (kg)/(serum creatinine X 72) multiply by 0.85 if female.

### ASPIRIN and CLOPIDOGREL (ALL)

- ☐ **Aspirin:** Initial: 162 mg to 325 mg non-enteric chewed.<sup>1</sup>  
Daily: 81 mg to 162 mg (or 162 to 325 mg after stent implantation).<sup>2 3</sup>
- ☐ **Clopidogrel:** Fibrinolytic or No Reperfusion Patients<sup>4</sup>:  
Initial: 300 mg orally (No evidence for loading dose in age ≥75 years)  
Daily: 75 mg orally  
PCI Patients<sup>5</sup> :  
Initial: 300-600 mg orally (No evidence for loading dose in age ≥75 years)  
Daily: 75 mg orally

### FIBRINOLYTIC THERAPY

- ☐ **Streptokinase:** 1.5 MU IV over 30-60 minutes<sup>6</sup>
- ☐ **Alteplase:** Bolus: 15 mg IV  
Infusion: 0.75 mg/kg IV over 30 minutes (not to exceed 50 mg); then 0.5 mg/kg over the next 60 minutes (not to exceed 35 mg over the next 60 minutes)<sup>7</sup>

# Instructions for Completing the Data Collection Form

## Inclusion Criteria

Patients must present for acute ischemic symptoms, typically reflected by a primary admission diagnosis of non-ST segment myocardial infarction (NSTEMI) or ST segment myocardial infarction (STEMI). Patients must meet the following criteria to be included in the ACTION Registry®-GWTG™:

Patients must present with acute ischemic symptoms within the previous 24 hours, typically reflected by a primary diagnosis of STEMI or NSTEMI. Patients admitted for other clinical conditions who subsequently develop the first onset of ischemic symptoms, together with persistent ST-segment elevation and/or positive cardiac markers, later during their hospitalization are not eligible.

The following ICD-9 CM\* codes may be used for retrospective identification of ACTION Registry-GWTG patients:

- 410.0 – 410.6: Acute MI (unspecified site)
- 410.7: NSTEMI (subendocardial infarction)
- 410.8: Other STEMI (non-specified site)
- 410.9 =: Other MI (non-specified site)
- 411.1: *Unstable Angina*
- 413.0-413.9: *Chest Pain (diagnosis)*
- 786.5: *Chest Pain (symptom)*
- 414.8: *Ischemic Heart Disease, Other, Chronic*



# Instructions document: Inclusion Criteria

## **Inclusion Criteria: NSTEMI**

Ischemic symptoms lasting  $\geq 10$  minutes at rest within the previous 24 hours, and positive cardiac markers defined:

- CK-MB > site reported upper limit of normal (ULN) range
- Troponin T or I > Upper Reference Limit (URL) for site assay that designates definite myocardial tissue necrosis

OR

- Positive bedside Troponin assay

Patients identified as NSTEMI, through narrative charting or ICD9 classification, without clinical evidence of cardiac biomarkers elevation above the threshold for infarct should not be included in the registry.

Transfer patients meeting the above criteria must arrive at the participating hospital within 24 hours of the time of initial presentation to the outside hospital. Patients who initially present with ischemic symptoms but who do not exhibit the NSTEMI (elevated cardiac markers) qualifying criteria at presentation may be included in the ACTION Registry-GWTG if they manifest the qualifying criteria during the first 24 hours of hospitalization (24-hour period begins at the time of presentation to the first hospital, if patient was transferred in from an outside hospital).

## **Inclusion Criteria: STEMI**

Ischemic symptoms lasting  $\geq 10$  minutes at rest within the previous 24 hours, and at least one of the following:

- Persistent ST-segment elevation  $\geq 1$  mm in two or more contiguous electrocardiographic leads
- Documented new or presumed new left bundle branch block (LBBB)
- Documentation of isolated posterior MI

# ACTION Completeness Assessment Thresholds

## Thresholds for the Supporting Composite

Sequence Number	Element Name	Individual Element Threshold	Quarter
3000	Patient Zip Code	70%	All
3001	Zip Code N/A	70%	All
3150	Name of Transferring Facility	50%	All
3220	Location of First Evaluation	80%	All
4044	Other ECG Findings	80%	All
4100	Heart Failure at First Medical Contact	80%	All
4110	Cardiogenic Shock at First Medical Contact	80%	All
4115	Cocaine Use	60%	All
4120	Heart Rate at First Medical Contact	60%	All
4130	Systolic Blood Pressure at First Medical Contact	60%	All
5030	Hypertension	80%	All
5040	Dyslipidemia	80%	All
5050	Currently on Dialysis	80%	All
5060	Chronic Lung Disease	80%	All
5070	Diabetes Mellitus	80%	All
5071	Diabetes Therapy	50%	All
5080	Prior MI	80%	All
5090	Prior Heart Failure	80%	All
5101	Most Recent PCI Date	70%	All
5110	Prior CABG	50%	All
5111	Most Recent CABG Date	50%	All

# ACTION Outcomes Report Interpretation Manual

“like” hospitals, the nation, “Top 10%”), after adjusting for possibly confounding factors, such as patient age and illness.

Similarly, sites with higher risk patients will typically note that their risk-adjusted mortality and bleeding are lower than their unadjusted mortality and bleeding. Sites with lower risk patients will typically observe that their risk-adjusted mortality and bleeding are higher than their unadjusted mortality and bleeding.

**Hierarchical statistical modeling** is used for the risk-adjusted mortality and bleeding calculations in the ACTION outcomes reports. This type of modeling takes into account the number of records submitted by your site. These risk-adjusted mortality and bleeding statistics will approach the national average for the ACTION Registry-GWTG.

**Variables included in the ACTION risk-adjusted mortality model are as follows:**

- Age
- Baseline troponin ratio
- Electrocardiogram (ECG) findings
- Heart failure or cardiogenic shock on admission
- Heart rate on admission
- Initial serum creatinine
- Prior peripheral arterial disease
- Systolic blood pressure

**Exclusions from the ACTION risk-adjusted mortality model:**

- Transferred out patients
- Patients with missing mortality
- Patients with missing age or sex
- Centers with  $\leq 40$  AMI patients submitted in total for their duration of ACTION Registry-GWTG participation



# ACTION Outcomes Report Glossary

Acute Therapies Summary		
Variable	Definition	Inclusion/Exclusion Criteria
• Aspirin at Arrival	• All AMI admissions who received aspirin within 24 hours before or after first medical contact.	• Entire ACTION Registry-GWTG AMI population, excluding admissions with age<18, admissions transferred out of ACTION Registry-GWTG hospital or discharged on day of or day after arrival, admissions transferred into ACTION Registry-GWTG hospital, admissions discharged on comfort measures, admissions died on day of or day after arrival, admissions received warfarin at home, contraindicated or blinded to aspirin, admissions discharged AMA
• Evaluation of LV Systolic Function	• All AMI admissions with documentation that LV systolic function testing was performed during the hospitalization	• Entire ACTION Registry-GWTG AMI population, excluding, admissions with age<18, admissions transferred out of ACTION Registry-GWTG hospital, admissions discharged on comfort measures, patient died, admissions discharged to hospice, admissions discharged AMA
• Reperfusion Therapy	• All STEMI admissions who received fibrinolytic therapy, primary PCI, or were transferred for PCI within 12 hours of Arrival	• Entire ACTION Registry-GWTG STEMI population who are reperfusion candidates, excluding admissions with age<18, admissions discharged on comfort measures, admissions discharged AMA
• Time to Fibrinolytic ≤ 30 minutes	• All STEMI ACTION-GWTG admissions who received fibrinolytic therapy within 30 minutes from arrival at ACTION Registry-GWTG hospital	• Entire ACTION Registry-GWTG STEMI population where fibrinolytic therapy is primary reperfusion strategy AND fibrinolytic therapy administered within 12 hours after hospital arrival, excluding admissions with age<18, admissions transferred in to ACTION Registry-GWTG hospital, admissions who did not receive fibrinolytic therapy within 30 minutes AND had a documented non-system reason for delay
• Time to Primary PCI ≤ 90 minutes	• All STEMI ACTION-GWTG admissions who received a primary PCI within 90 minutes from arrival at ACTION Registry-GWTG hospital	• Entire ACTION Registry-GWTG STEMI population where PCI is the primary reperfusion strategy AND primary PCI is within 12 hours after hospital arrival, excluding admissions with age<18, admissions transferred in to ACTION Registry-GWTG hospital, non-primary PCI admissions, admissions administered fibrinolytic therapy prior to PCI, admissions who did not receive primary PCI within 90 minutes AND had a documented non-system reason for delay
• Door In to Door Out	• Median time from arrival at referral facility to transfer out of referral facility for all STEMI admissions who are planned transfers out for primary PCI	• Entire ACTION Registry-GWTG STEMI population who are transferred out for primary PCI and have reported both first hospital arrival and transfer out times, excluding admissions with age<18, admissions transferred out greater than 24 hours after first hospital arrival, admissions administered fibrinolytic therapy, admissions who had a documented non-system reason for delay in PCI
• Door In to PCI	• Median time from arrival at referral facility to primary PCI for all STEMI admissions who are transferred in for primary PCI	• Entire ACTION Registry-GWTG STEMI population who are transferred in for primary PCI and have reported both first hospital arrival and PCI times and are transferred out of referral facility within 24 hours of arrival, excluding admissions with age<18, admissions administered fibrinolytic therapy, admissions who had a documented non-system reason for delay in PCI

# ACTION Operational Reports Glossary

## ACTION Registry<sup>®</sup>-GWTG<sup>™</sup> Operational Reports Glossary v2

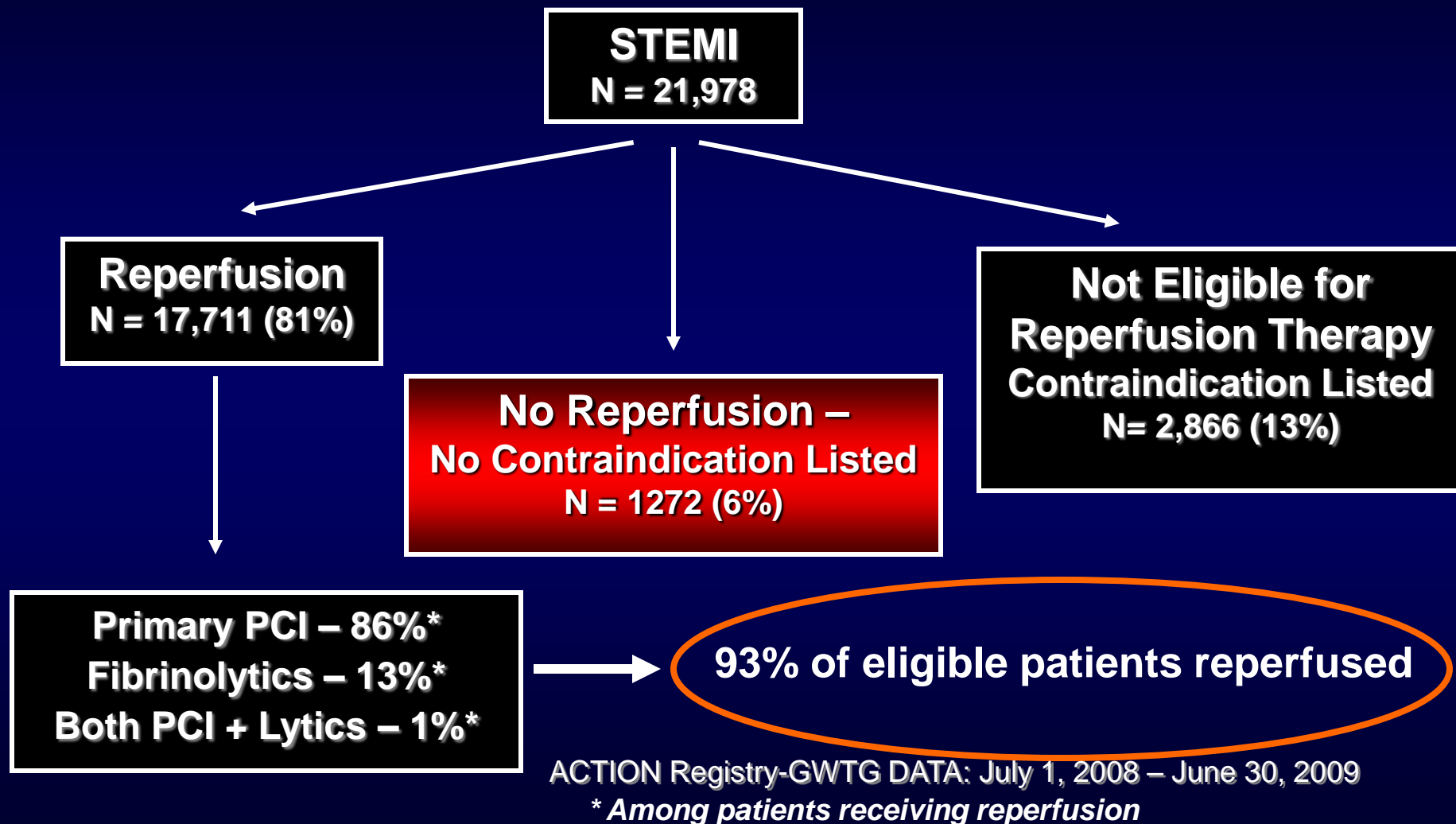
Report Name	Description	Inclusion/Exclusion Criteria
Aspirin at Arrival among STEMI patients	Acute myocardial infarction (AMI) patients who received aspirin within 24 hours before or after hospital arrival.	<p><b>Numerator</b> All STEMI patients who received aspirin within 24 hours before or after hospital arrival</p> <p><b>Exclusions</b> n/a</p> <p><b>Denominator</b> All ACTION-GWTG Registry STEMI patients</p> <p><b>Exclusions</b>            Patients less than 18 years of age            Patients discharged on day of arrival            Patients who expired on day of or day after arrival (If expired on day 3 they are included)            Patients who left against medical advice on day of or day after arrival            Patients with comfort measures only documented or Patients with comfort measures on day of or day after arrival            Patients who are contraindicated            Patients who are blinded            Patients who received Warfarin at Home         </p>
Aspirin at Discharge among STEMI patients	Acute myocardial infarction (AMI) patients who are prescribed aspirin at hospital discharge.	<p><b>Numerator</b> All STEMI patients prescribed aspirin at hospital discharge</p> <p><b>Exclusions</b> n/a</p> <p><b>Denominator</b> All ACTION-GWTG Registry STEMI patients</p> <p><b>Exclusions</b>            Patients less than 18 years of age            Patients transferred to another hospital for inpatient care            Patients who expired            Patients who left against medical advice            Patients with comfort measures only documented            Patients who are contraindicated            Patients who are blinded            Patients who received Warfarin at Discharge         </p>

# NCDR Web tool form- in order of entry into tool

ACTION Registry®-GWTG™		NCDR® ACTION Registry® v2.1 Acute Coronary Treatment and Intervention Outcomes Network Registry	
<b>J. DISCHARGE</b>			
Discharge Date <sup>11000</sup> :			
Comfort Measures Only <sup>11010</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	
Enrolled in Clinical Trial During Hospitalization <sup>11020</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	
Discharge Status <sup>11100</sup> :	<input type="radio"/> Alive	<input type="radio"/> Deceased	
→ If Alive, Smoking Counseling <sup>11101</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	
→ If Alive, Dietary Modification Counseling <sup>11102</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> N/A
→ If Alive, Exercise Counseling <sup>11103</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> Ineligible
→ If Alive, Cardiac Rehabilitation Referral <sup>11104</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	<input type="radio"/> Ineligible
→ If Alive, Discharge Location <sup>11105</sup> :	<input type="radio"/> Home	<input type="radio"/> Extended care/transitional care unit	<input type="radio"/> Other hospital
	<input type="radio"/> Nursing home	<input type="radio"/> Hospice	<input type="radio"/> Other <input type="radio"/> Left against medical advice (AMA)
→ If Other Hospital, Transfer Time <sup>11106</sup> :	_____		
→ If Other Hospital, Transfer for PCI <sup>11107</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	
→ If Other Hospital, Transfer for CABG <sup>11108</sup> :	<input type="radio"/> No	<input type="radio"/> Yes	
→ If Deceased, Cause of Death <sup>11150</sup> :	<input type="radio"/> Cardiac	<input type="radio"/> Non-cardiac	
→ If Deceased, Time of Death <sup>11151</sup> :	_____		
<b>E. MEDICATIONS</b>			
Oral Medications			
		Medications Administered in First 24 Hours (Up to 24 hours after first medical contact*)	Medications Prescribed At Hospital Discharge (do not code for patients who die or are AMA or are transferred to

# National Data Slide Sets Produced every 6 months

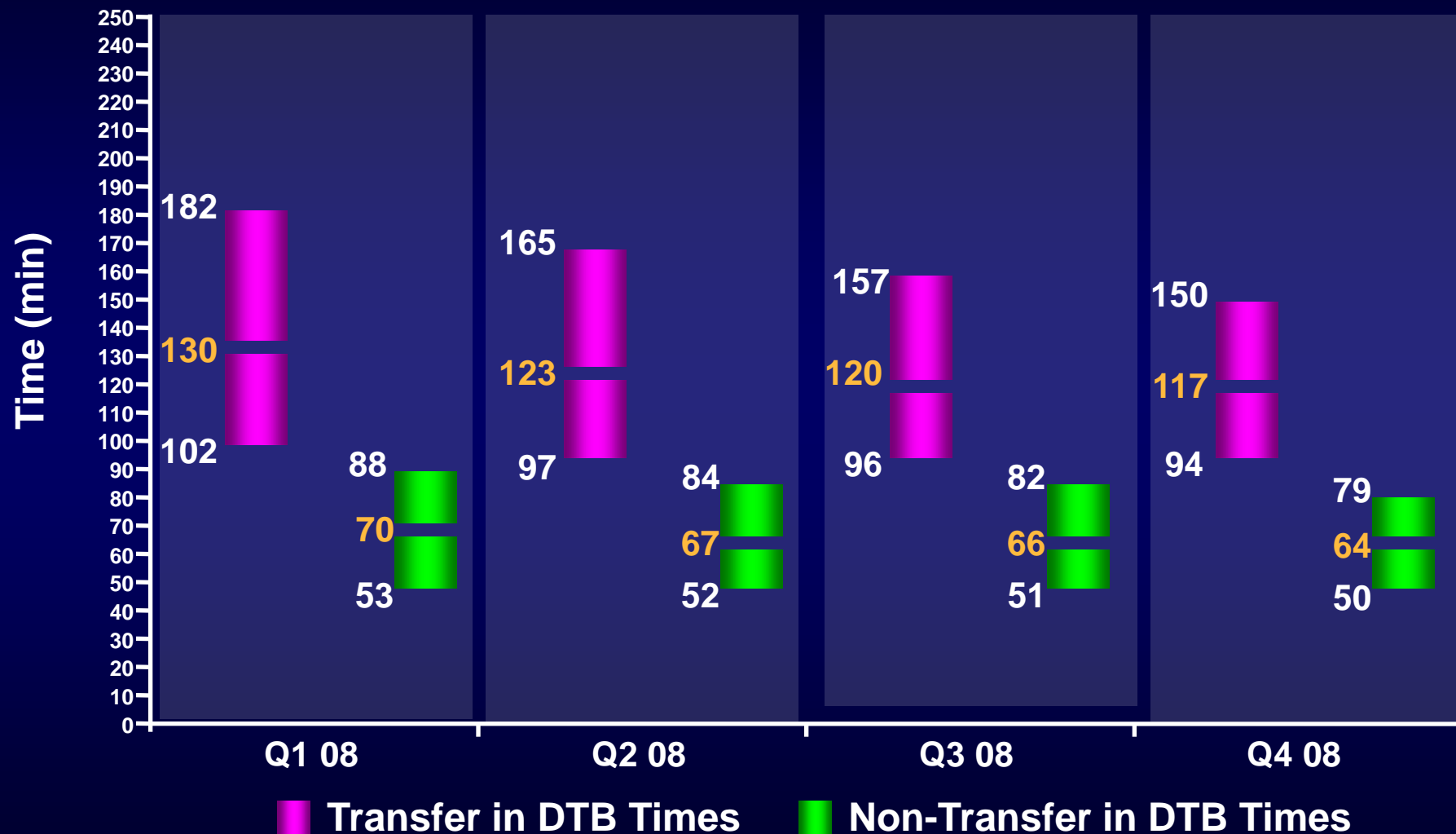
# Use of Reperfusion Therapy for STEMI



# ACTION Door-to-Balloon Times – Median Times for Transfer In and Non-Transfer In Patients

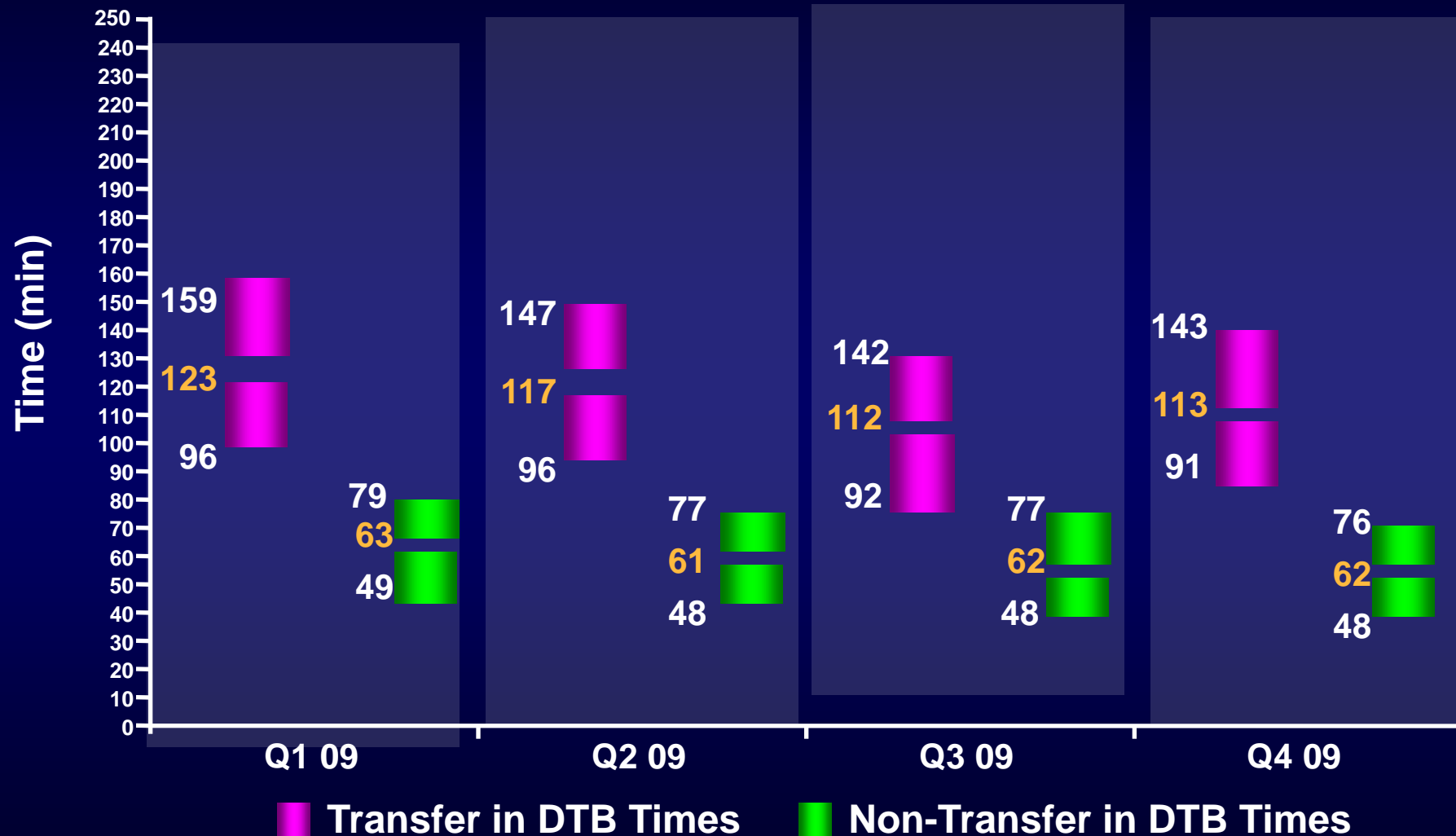


# STEMI Door-to-Balloon Times – Median Times for Transfer In and Non-Transfer In Patients



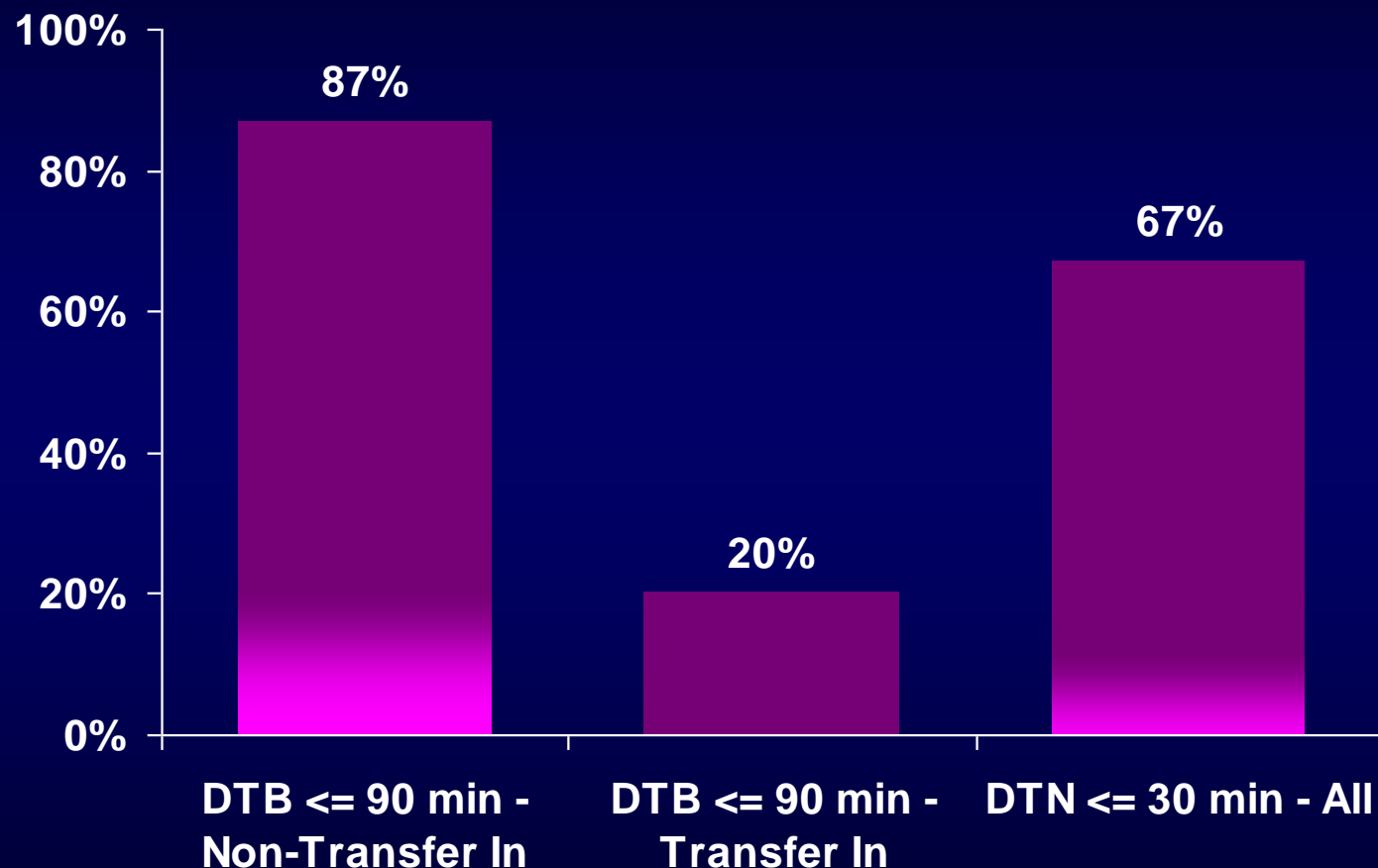


# STEMI Door-to-Balloon Times – Median Times for Transfer In and Non-Transfer In Patients



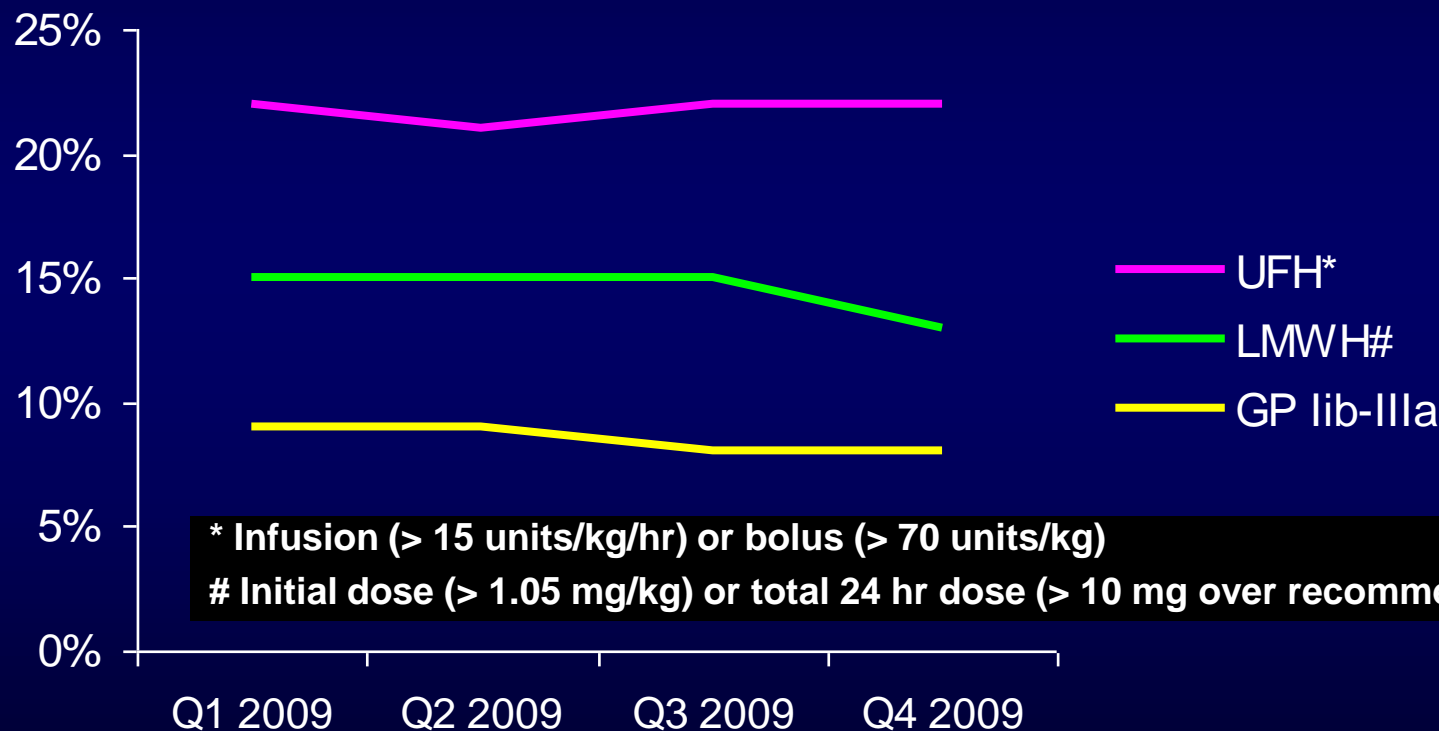


# STEMI – Door to Balloon and Door to Needle Times: Cumulative 12 Month Data



ACTION Registry-GWTG DATA: July 1, 2008 – June 30, 2009

# NSTEMI Acute Medication Overdosing Trends



ACTION Registry-GWTG DATA: January 1, 2009 – December 31, 2009

# Quarterly Outcome Reports

# Site Specific Quarterly Reports

## Composites (12 months)

- Percent of compliance
- Benchmark National

## • Line graphs (12 months)

- Breakdown Quarterly performance

## • Tables (Quarterly, 12 months)

- Benchmark Like Hospitals, National, Top 10%
- All AMI details, and side by side STEMI and NSTEMI
- Overall AMI Subgroups- Compares composites by race, gender, age, transfer in/nontransfer, DM/nonDM, CrCl patients

# Performance Measures

## Acute/In-hospital Measures

### Aspirin Arrival

**STEMI - Any reperfusion (PCI or Lytic)**

**STEMI - Lytic -Door to Needle (Median Time and % <30min)**

**STEMI - PCI – D2B (Median Time and % <90min)**

**STEMI - D2B Transfer in (Median Time)**

### LVSD Evaluation

## Discharge Measures

### Aspirin

**B-blocker**

**ACE or ARB (EF <40%)**

**Statin for LDL  $\geq 100$ mg/dL**

**Smoking cessation (among smokers)**

**Cardiac rehabilitation**

# Quality Metrics

**Door to EKG (within 10 min)**

**STEMI- Acute ADP Receptor Inhibitor Therapy within 24 hours of arrival\_**

**Revascularized Patients Discharged on ADP Receptor Inhibitors  
ADP Receptor Inhibitors Prescribed at Discharge for Medically  
Treated Patients**

**LDL assessment (in-hospital)** 

**NSTEMI - Excessive Initial UFH Dosing (>70 U/kg bolus, >15 U/kg/min infusion)**

**Excessive Initial Enoxaparin Dosing (SQ >1.05 mg/kg)**

**Excessive Initial GP IIb/IIIa Dosing (Full dose Tirofiban if CrCl <30 & Full dose Eptifibatide CrCl <50, or dialysis with either)**

**STEMI - Anticoagulant- UFH, enoxaparin, bivalarudin or fondaparinux (first 24 hours)**

**Aldosterone Blocking Agents at Discharge (EF <40%, with DM, or HF)**



# Example of Quality Metrics in Dashboard

Guideline Metric	Eligible Admissions	Care Opportunities	Adherence Score <sup>1</sup>	Hospital Rank (of 261)	Distribution of Site QI Scores
ECG within 10 minutes of Arrival	14	13	61.5% (48.3%, 73.3%)	42	
Aspirin within 24 hours of Arrival	14	14	78.6% (66.2%, 87.5%)	251	
Anticoagulant within 24 hours of Arrival (NSTEMI)	14	2	50.0% (13.4%, 86.6%)	250	
Excessive Initial UFH Dose <sup>2</sup>	14	3	0.0% (0.0%, 37.0%)	1	
Excessive Initial Enoxaparin Dose <sup>2</sup>	-	-	- (-, -)	-	
Excessive GP IIb/IIIa Inhibitor Dose <sup>2</sup>	14	1	0.0% (0.0%, 75.0%)	1	

<sup>1</sup>Number of times care matches guideline recommendations / Number of guideline opportunities

95% Confidence Interval for Adherence Score provided in parentheses

<sup>2</sup>Lower scores indicate better performance.

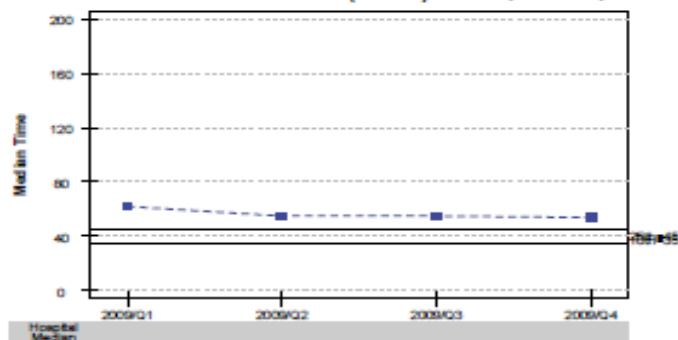
# Q4 2009 Door In-Door Out, D2B

ACTION Registry-GWTG™

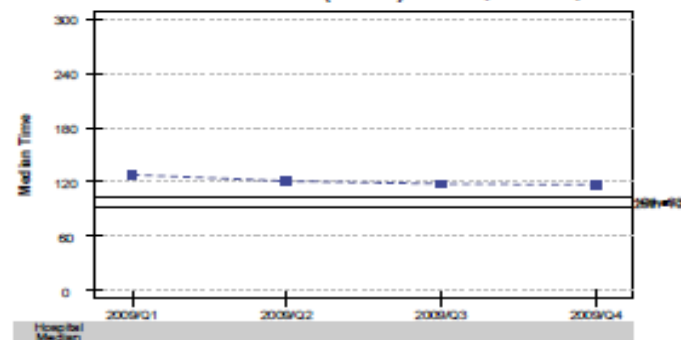
**ACTION Acute Median Time Trends**  
Site 999999

**ACTION Registry-GWTG™ Report: Q4/09**  
\* Confidential Information \*

**Door In to Door Out (STEMI): 2009/Q1-2009/Q4**



**Door In to PCI (STEMI): 2009/Q1-2009/Q4**



Quarter Median: —●— Hospital —◆— Like Hospitals - -■- - Nation

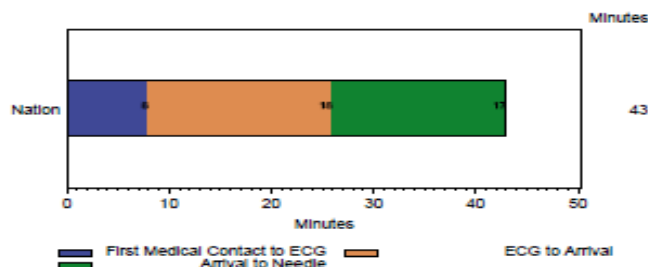
# Q4 2009 Reperfusion Therapy Trends

ACTION Registry-GWTG

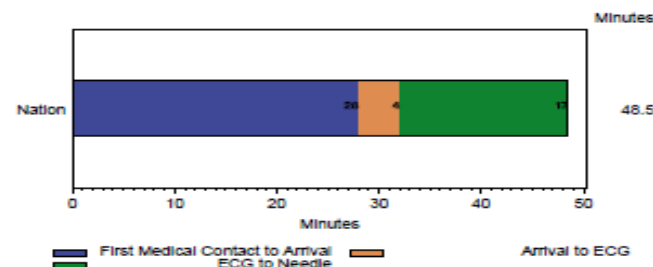
Times to Reperfusion: Thrombolytics and Primary PCI  
Site 999999

ACTION Registry-GWTG<sup>™</sup> Report: Q4/09  
\* Confidential Information \*

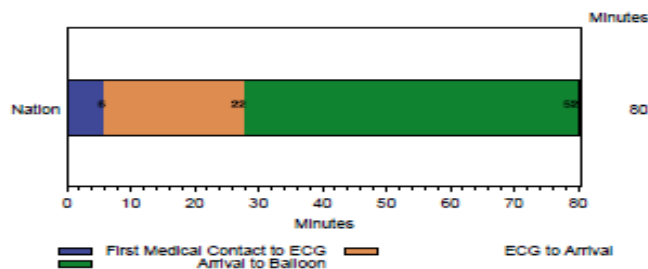
**First Medical Contact to ECG to Hospital Arrival to Needle**  
(Pre-Hospital ECG)



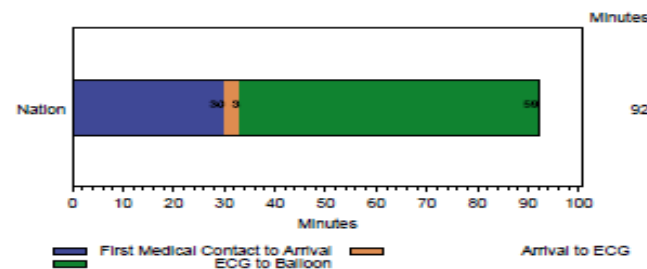
**First Medical Contact to Hospital Arrival to ECG to Needle**  
(ECG After Hospital Arrival)



**First Medical Contact to ECG to Hospital Arrival to Balloon**  
(Pre-Hospital ECG)



**First Medical Contact to Hospital Arrival to ECG to Balloon**  
(ECG After Hospital Arrival)



# **ACTION Registry-GWTG Limited Outcomes Report**

**The highlighted fields in the next group of slides, are the fields that are not included in the Limited Outcomes Quarterly Report**

ACTION Registry-GWTG™

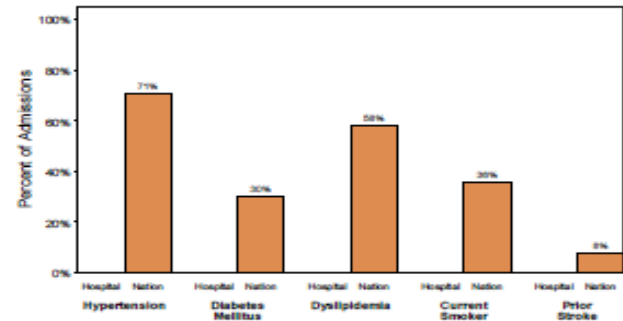
**Table 2: AMI - Medical History/Home Medications**  
Site 999999

**ACTION Registry-GWTG™ Report: Q2/09**  
\* Confidential Information \*

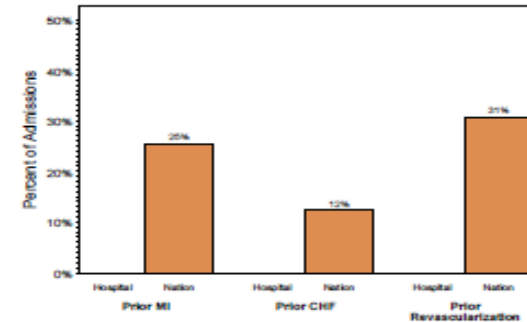
**Duke Clinical Research Institute**  
DUKE UNIVERSITY MEDICAL CENTER

	Hospital		Like Hospitals	Nation	Top 10%
	Last Qtr	Last 12 mo			
<b>Comorbid Illness</b>					
Hypertension .....				71%	69%
Diabetes mellitus, overall .....				30%	29%
Insulin-treated .....				35%	34%
Diet .....				9%	10%
Oral .....				50%	50%
Peripheral arterial disease .....				10%	8%
Obesity (BMI >= 30) .....				38%	38%
Dyslipidemia .....				58%	57%
Current/recent smoker .....				36%	38%
Cerebral vascular disease .....				11%	10%
Prior stroke .....				8%	8%
Current Dialysis .....				2%	2%
Chronic Lung Disease .....				14%	14%
<b>Cardiac History</b>					
Prior MI .....				25%	25%
Prior HF .....				12%	12%
Prior PCI .....				23%	25%
Prior CABG .....				14%	13%
Atrial fibrillation/flutter .....				7%	7%
<b>Home Medications</b>					
Aspirin .....				42%	43%
Clopidogrel .....				14%	13%
Warfarin .....				5%	5%
Beta blocker .....				37%	38%
ACE-I or ARB .....				37%	38%
Aldosterone blocking agent .....				2%	2%
Statin .....				38%	39%

**Selected Cardiac Risk Factors**



**Selected Cardiac History**



**FOOTNOTES**

<sup>1</sup>Body mass index (BMI) = Weight (in kilograms) / Height<sup>2</sup> (in meters)

ACTION Registry-GWTG

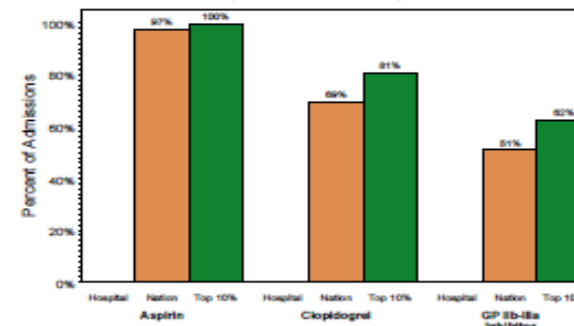
**Table 4: AMI - Acute<sup>1</sup> and In-Hospital Medications and Dosing Errors  
Site 999999**

**ACTION Registry-GWTG<sup>™</sup> Report: Q2/09  
\* Confidential Information \***

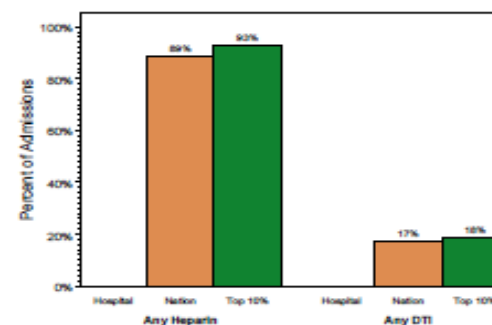
 **Duke Clinical Research Institute**  
DUKE UNIVERSITY MEDICAL CENTER

	Hospital		Like Hospitals	Nation	Top 10%
	Last Qtr	Last 12 mo			
<b>Any Acute Oral Antiplatelet</b>				97%	99%
Aspirin .....				97%	100%
Clopidogrel .....				69%	81%
<b>Acute Beta blocker</b>				91%	98%
<b>Acute ACE-I or ARB</b>				50%	57%
<b>Any Anticoagulant</b>				94%	97%
Heparin, IV unfractionated .....				69%	70%
Heparin, low molecular weight .....				30%	36%
Bivalirudin .....				16%	18%
Fondaparinux .....				1%	1%
<b>Any GP IIb-IIIa Inhibitor</b>				54%	66%
<b>Any GP IIb-IIIa Inhibitor Among PCI patients</b> .....				71%	77%
Started infusion pre-PCI <sup>2</sup> .....				25%	30%
Started infusion peri-PCI <sup>3</sup> .....				74%	70%
<b>Dosing Errors<sup>4</sup> for Anticoagulants and GP IIb-IIIa Inhibitors</b>					
Heparin, IV UFH - overall (All AMI) ..				27%	19%
Bolus .....				20%	14%
Infusion .....				21%	15%
Enoxaparin - overall (NSTEMI) .....				15%	15%
Initial D > 1.05 mg/kg .....				12%	13%
24 Hr D > 10 mg over rec (CrCl) ..				9%	9%
GP IIb-IIIa Inhibitor (All AMI) .....				9%	8%

**Acute Medications (w/in 24h of Hospital Presentation)**



**Antithrombin Medications**



<sup>1</sup>Acute refers to meds received within 24 hours of hospital arrival

<sup>2</sup>Pre-procedure is anytime from hospital presentation up to 1-hour pre-procedure

<sup>3</sup>Peri-procedure is 1-hour pre-procedure to anytime post-procedure

<sup>4</sup>Dosing Errors are defined differently for STEMI and NSTEMI patients.

Refer to Glossary and Interpretation Manual for Dosing Error definitions.

ACTION Registry-GWTG™

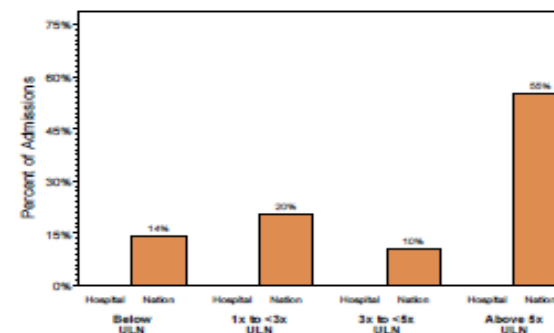
**Table 8: AMI - Laboratory Results**  
Site 999999

**ACTION Registry-GWTG™ Report: Q2/09**  
\* Confidential Information \*

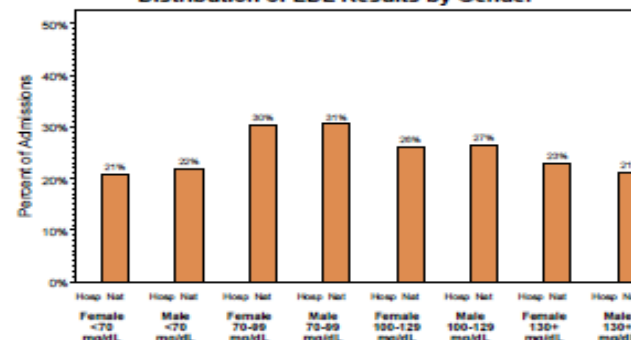
**Duke Clinical Research Institute**  
DUKE UNIVERSITY MEDICAL CENTER

	Hospital		Like Hospitals	Nation	Top 10%
	Last Qtr	Last 12 mo			
<b>Lipids</b>					
Any panel drawn in hospital				76%	86%
Drawn prior to admission				4%	4%
<b>High-Density Lipoprotein</b>					
< 40 mg/dL				63%	66%
<b>Low-Density Lipoprotein</b>					
< 70 mg/dL				21%	22%
> 100 mg/dL				47%	46%
<b>Triglycerides</b>					
> 300 mg/dL				8%	8%
<b>BNP or NTproBNP, drawn</b>				42%	39%
<b>Chronic Kidney Disease Class</b>					
Baseline Creatinine Clearance					
≥ 60 cc/min				67%	68%
30 - 59 cc/min				24%	23%
< 30 cc/min				9%	8%
<b>Baseline Hemoglobin (g/dL)<sup>1</sup></b>					
< 9 g/dL				2%	2%
<b>Hemoglobin A1C</b>					
Overall				29%	43%
Among Diabetes Mellitus				44%	57%
< 7%				67%	74%
<b>INR</b>					
> 1.5				6%	6%

**Distribution of Peak CK-MB Results**



**Distribution of LDL Results by Gender**



**FOOTNOTES**

<sup>1</sup>Or baseline HCT < 28%



ACTION Registry-GWTG<sup>™</sup>

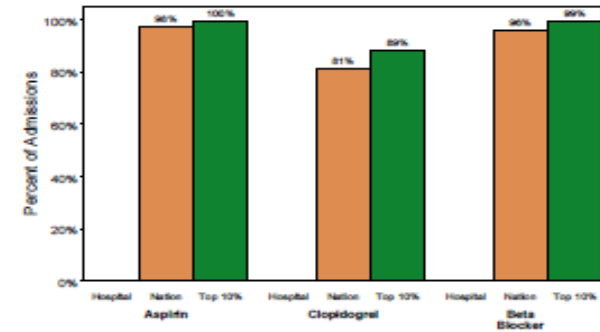
**Table 11: AMI - Discharge Therapies  
Site 999999**

**ACTION Registry-GWTG<sup>™</sup> Report: Q2/09  
\* Confidential Information \***

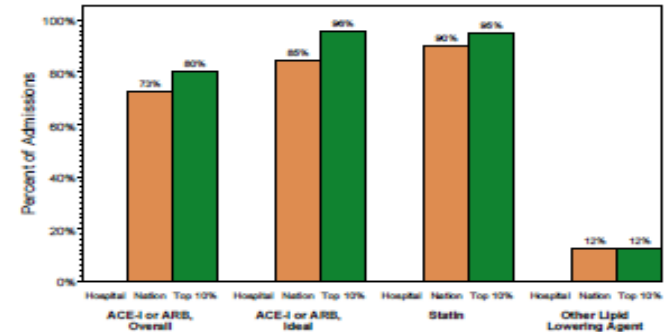
**Duke Clinical Research Institute  
DUKE UNIVERSITY MEDICAL CENTER**

	Hospital		Like Hospitals	Nation	Top 10%
	Last Qtr	Last 12 mo			
Discharge Medications <sup>1</sup>					
Oral antiplatelet, any .....				98%	100%
Aspirin .....				98%	100%
Clopidogrel					
Overall .....				81%	89%
Among medically managed patients .....				55%	68%
Among PCI patients .....				97%	98%
Among CABG patients .....				31%	26%
Warfarin .....				8%	8%
Beta blocker .....				96%	99%
ACE inhibitor or ARB					
Overall .....				73%	80%
Among ideal patients <sup>2</sup> .....				85%	96%
Aldosterone blocking agent .....				4%	5%
Statin .....				90%	95%
Other lipid lowering agent, any .....				12%	12%
Discharge Recommendations <sup>1</sup>					
Smoking cessation <sup>3</sup> .....				96%	98%
Dietary modification .....				94%	99%
Exercise counseling .....				88%	98%
Cardiac rehabilitation .....				77%	97%

**Discharge Medications**



**Discharge Medications**



**FOOTNOTES**

<sup>1</sup>Among non-contraindicated, non-transfer patients, discharged alive not on comfort measures nor left against medical advice

<sup>2</sup>Ideal patients are defined as EF < 40%

<sup>3</sup>Among current/recent smokers

# **ACTION Registry-GWTG Recognition Program**

# Criteria

- Patient Volume
  - 10 NSTEMI within each quarter; and/or
  - 10 STEMI within past quarter
- Previous GWTG-CAD recognition status will be factored into recognition level
- Must maintain uninterrupted data submission for the measurement period.

# Criteria Continued

- **STEMI composite:**
  - acute antiplatelet (ASA or [clopidogrel or ticlidopine if aspirin intolerant])
  - DTN $\leq$ 30 minutes
  - DTB $\leq$ 90 minutes)
  - discharge antiplatelet (ASA or [clopidogrel or ticlidopine] if aspirin intolerant)
  - discharge beta-blocker,
  - discharge ACE-I/ ARB (ideal patients)
  - discharge statin (exclude if contraindicated or LDL $<$ 100mg/dl and not discharged on statin)
  - smoking cessation counseling,
  - cardiac rehabilitation,

# Criteria Continued

- **NSTEMI composite:**
  - acute antiplatelet, (ASA or [clopidogrel or ticlidopine if aspirin intolerant])
  - discharge antiplatelet, (ASA or [clopidogrel or ticlidopine if aspirin intolerant])
  - discharge beta-blocker,
  - discharge ACE-I/ ARB (ideal patients),
  - discharge lipid-lowering agent (exclude if contraindicated or LDL<100mg/dl and not discharged on statin)
  - smoking cessation counseling
  - cardiac rehabilitation

# Recognition Thresholds

- Recognition Threshold
  - Silver Performance-85% performance on composite measures achieved for 4 consecutive quarters
  - Gold Performance-85% performance on composite measures achieved for 8 consecutive quarters

# On-Demand Reports (Operational Reports)

Reports that are created “On-Demand”

- A summary of Patient Level Data
- From data submitted through the DQR
- Must have Yellow or Green light
- The Reports are automatically created




# Adding Additional Data

- With each submission that passes the DQR, the reports are updated
- You must save the report prior to any new submissions
- Submit and create reports as often as you like

# What Reports are available

- ACE Inhibitor/ ARB at Discharge among STEMI & NSTEMI Patients
- Adult Smoking Cessation Advice Counseling among STEMI & NSTEMI ASA at Arrival among STEMI & NSTEMI Patients
- ASA at Discharge among STEMI & NSTEMI Patients
- Beta Blocker at Discharge among STEMI & NSTEMI Patients
- Statin at Discharge among STEMI & NSTEMI Patients
- Cardiac Rehabilitation Patient Referral among STEMI & NSTEMI Patients
- Evaluation of LV Systolic Function among STEMI & NSTEMI Patients
- Door In Door Out Transfer in Patients
- Door to Balloon
- Door to Balloon Transfer in Patients
- Door to Needle
- Reperfusion Therapy among STEMI Patients

# Locate your Report

 **NCDR**<sup>™</sup>  
National Cardiovascular Data Registry

[Administration](#)
[Reports](#)
[Data](#)
[Resources](#)

[↑T](#) [↓T](#)

[ACTION Registry<sup>®</sup> - GWTG<sup>™</sup>](#)
[On-Demand Reports \(v2.0\)](#)
[Help ?](#)

[Reports Home](#)
[DQR \(v2.0\)](#)
[Outcomes Reports \(v2.0\)](#)
[On-Demand Reports \(v2.0\)](#)
[Outcomes Reports \(v1.5\)](#)
[File Delivery](#)

Quick Links


[IC<sup>3</sup> Program<sup>®</sup>](#)
[CARE Registry<sup>®</sup>](#)
[CathPCI Registry<sup>®</sup>](#)

**On-Demand reports are not stored once they are generated. Remember to Export your report if you would like to keep it.**

Type of Report  Select a Report

Begin Timeframe  End Timeframe

of 3





**Door to Balloon within 90 minutes**





American College Of Cardiology - 9999999

2009Q2 - 2009Q2

# Select your Report

Type of Report  Select a Report   

Begin Timeframe  End Timeframe

   of 3     Find | Next

# Select the Type of Report

**Remember to Export your report if you would like to save it**

Type of Report	<div style="border: 1px solid black; padding: 2px;">             STEMI ▼             <div style="border: 1px solid black; padding: 2px; margin-top: 2px;">                 STEMI NSTEMI All             </div> </div>	Select a Report	<div style="border: 1px solid black; padding: 2px;">Door to Balloon</div>
Begin Timeframe	<div style="border: 1px solid black; padding: 2px;"> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div>             ▼         </div>	End Timeframe	<div style="border: 1px solid black; padding: 2px;">2009Q2</div>

⏮ ⏪ 1 of 3 ⏩ ⏭ 100% ▼  Find | Next

## ACTION Registry

**Door to Balloon within 90**

American College Of Cardiology

2009Q2 - 2009Q2


Report generated: 8/3/2009 2:

120.0%


100.0%

80.0%

patients



# Select a Report

Type of Report	STEMI ▼	Select a Report	Door to Balloon ▼	
Begin Timeframe	2009Q2 ▼		ACE Inhibitor / ARB at Discharge among STEMI patients Adult Smoking Cessation Advice/Counseling among STEMI patients Aspirin at Arrival among STEMI patients Aspirin at Discharge among STEMI patients Beta Blocker at Discharge among STEMI patients Cardiac Rehabilitation Patient Referral among STEMI patients Door In Door Out Transfer in patients <b>Door to Balloon</b> Door to Balloon Transfer in patients Door to Needle Evaluation of LV Systolic Function among STEMI patients Reperfusion Therapy among STEMI patients Statin at Discharge among STEMI patients	
1 of 3		100% ▼		

TG

# Selecting Report Period

Type of Report  Select a Report



Begin Timeframe  End Timeframe

1 of 3  Find | Next

2009Q1  
2008Q4  
2008Q3



# View Report

Type of Report	STEMI ▼	Select a Report	Door to Balloon ▼		
Begin Timeframe	2009Q2 ▼	End Timeframe	2009Q2 ▼	<a href="#">View Report</a>	
◀ ◀ 1 of 3 ▶ ▶ 100% ▼ <input type="text"/> Find   Next					

# Performance Graph

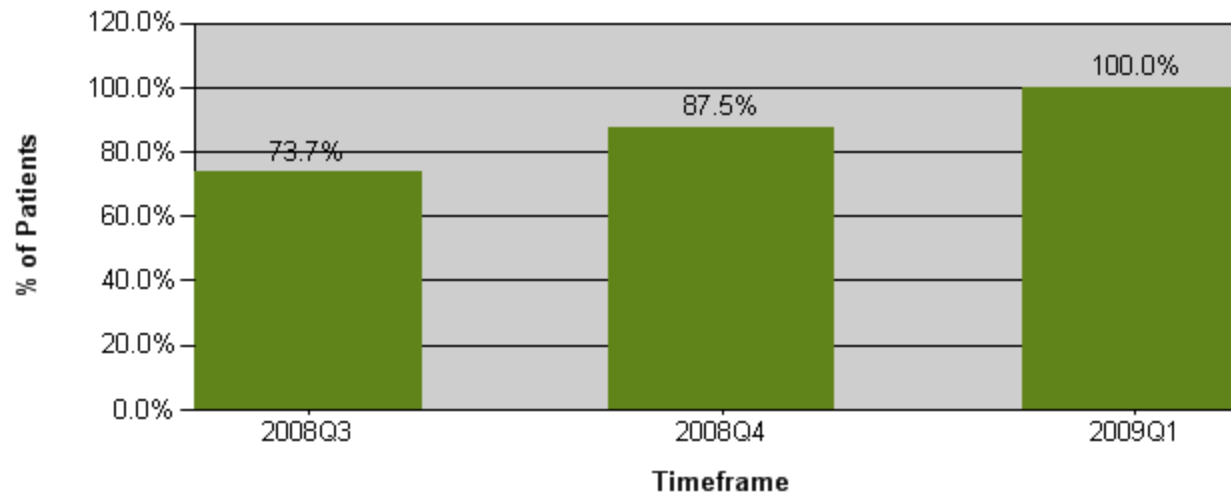
## ACTION Registry-GWTG<sup>™</sup>

**Door to Balloon within 90 minutes**

American College Of Cardiology - 999999

2008Q3 - 2009Q1

Report generated: 8/3/2009 3:18:44 PM



# Summary Table

**Summary:**

**Timeframe**

Timeframe	Numerator	Denominator	% of Patients
2008Q3	14	19	73.7%
2008Q4	21	24	87.5%
2009Q1	6	6	100.0%

# Information on detail page

- Patient ID #
- Quarter included
- If included in Numerator
- If included in Denominator
- Inclusion & Exclusion fields

# Patient Detail Page

## ACTION Registry®-GWTG™

**Door to Balloon within 90 minutes**

American College Of Cardiology - 999999

2008Q3 - 2009Q1

Report generated: 8/3/2009 3:18:44 PM

Patient ID	Timeframe	Included in Num	Included in Den	Transferred In from Outside Facility	Arrival Date/Time	Subs ECG Date/Time	First Device Date/Time	PCI Indication	PCI Delay Reason	Throm Date/Time	Door to Balloon Time (mins)
10131	2008Q4	Yes	Yes	No	12/21/2008 16:09		12/21/2008 17:11	Immediate primary PCI for STEMI	None		62
10132	2008Q4	No	Yes	No	12/25/2008 19:45		12/26/2008 02:09	Immediate primary PCI for STEMI	None		384
10134	2008Q4	No	No	No	12/24/2008 11:51						
10135	2008Q4	No	No	No	11/07/2008 17:52		11/07/2008 18:49	Immediate primary PCI for STEMI	Other		57
10138	2008Q4	Yes	Yes	No	11/19/2008 16:15		11/19/2008 17:39	Immediate primary PCI for STEMI	None		84
10140	2008Q4	No	Yes	No	11/17/2008 10:05		11/17/2008 11:57	Immediate primary PCI for STEMI	None		112

# ACE/ ARB at D/C STEMI







Patient ID	Timeframe	Included in Num	Included in Den	LVEF %	ACE Inhibitor at Discharge	ARB at Discharge	Discharge Location	Discharge Status	Comfort Measures
10000	2008Q3	No	No	50	No	No	Home	Alive	No
10002	2008Q3	No	No	48	No	No	Home	Alive	No
10003	2008Q3	No	No	60	Yes	No	Home	Alive	No
10005	2008Q3	No	No	40				Deceased	No
10006	2008Q3	No	No	59	No	No	Home	Alive	No
10008	2008Q3	No	No		Yes	No	Home	Alive	No
10010	2008Q3	No	No	50	Yes	No	Home	Alive	No
10012	2008Q3	Yes	Yes	30	Yes	No	Home	Alive	No
10017	2008Q3	No	No	60	No	No	Home	Alive	No
10020	2008Q3	No	No	20	Contraindicated	No	Extended Care/Transitional Unit	Alive	Yes
10022	2008Q3	No	No	44	No	No	Home	Alive	No
10028	2008Q3	Yes	Yes	30	Yes	No	Home	Alive	No
10031	2008Q3	Yes	Yes	30	Yes	No	Home	Alive	No
10033	2008Q3	No	No	50	Yes	No	Home	Alive	No
10036	2008Q3	No	No	50	No	No	Home	Alive	No
10039	2008Q3	Yes	Yes	20	Yes	No	Home	Alive	No
10040	2008Q3	No	No	42	Yes	No	Home	Alive	No
10041	2008Q3	Yes	Yes	30	Yes	No	Extended Care/Transitional Unit	Alive	No

# Beta Blocker on D/C STEMI

Patient ID	Timeframe	Included in Num	Included in Den	Beta Blocker at Discharge	Discharge Location	Discharge Status	Comfort Measures
10000	2008Q3	Yes	Yes	Yes	Home	Alive	No
10002	2008Q3	Yes	Yes	Yes	Home	Alive	No
10003	2008Q3	Yes	Yes	Yes	Home	Alive	No
10005	2008Q3	No	No			Deceased	No
10006	2008Q3	No	Yes	No	Home	Alive	No
10008	2008Q3	Yes	Yes	Yes	Home	Alive	No
10010	2008Q3	Yes	Yes	Yes	Home	Alive	No
10012	2008Q3	Yes	Yes	Yes	Home	Alive	No
10017	2008Q3	Yes	Yes	Yes	Home	Alive	No
10020	2008Q3	No	No	Yes	Extended Care/Transitional Unit	Alive	Yes
10022	2008Q3	Yes	Yes	Yes	Home	Alive	No
10028	2008Q3	Yes	Yes	Yes	Home	Alive	No
10031	2008Q3	Yes	Yes	Yes	Home	Alive	No



# Help, PDF, Excel functions

Data	Resources	*Control*	
			American
<a href="#">Help</a> 			
<p><b>On-Demand reports are not stored once they are generated. Remember to Export your report if you would like to keep it for future reference.</b></p>			
Report	<input type="text" value="Door to Balloon"/> 	 	
	End Timeframe <input type="text" value="2009Q2"/> 	<input type="button" value="View Report"/>	
	<input type="text"/> Find   Next		


**ACTION** Registry<sup>®</sup>-GWTG<sup>™</sup>

Door to Balloon within 90 minutes

# Data Quality Process

## DQR

# DQR= Data Quality Reports


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Administration | Reports | Data | Resources | \*Control\* | Search  **GO**

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[Sample Reports](#)  
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Quick Links

[CARE Registry®](#)  
[CathPCI Registry®](#)  
[ICD Registry™](#)

**RENEWAL SEASON IS UPON US!**

**Action is required - please read carefully below.**

Your 2010 Renewal Payment and Amendment (contract) are due no later than December 31, 2009. Please note that extensions will not be granted.


Registry	Contract	Payment	Renewal Status
CathPCI	Completed	Completed	Fully Renewed for 2010
ICD	Completed	Completed	Fully Renewed for 2010
CARE	Completed	Completed	Fully Renewed for 2010
ACTION	Completed	Completed	Fully Renewed for 2010

**Your Renewal Documents will be available online!**

By October 7, 2009, you will be able to access your 2010 Invoice and Amendment (contract) via the NCDR File Delivery page.

If your facility is setup under a Corporate Account, the NCDR Account Management staff has already contacted your Corporate Billing Contact directly (no File Delivery has been loaded). All other facilities may now download these documents by doing the following:

# Where To Find The DQR


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[Outcomes Reports \(v2.0\)](#)  
[On-Demand Reports \(v2.0\)](#)  
[Outcomes Reports \(v1.5\)](#)  
[File Delivery](#)  

Quick Links

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[CathPCI Registry<sup>®</sup>](#)  
[ICD Registry<sup>™</sup>](#)  
[IMPACT Registry<sup>™</sup>](#)  
[PINNACLE Registry<sup>™</sup>](#)

**Data Quality Report (DQR)**  
 The Data Quality Report is used to determine the overall status of data submission. The status is used to determine if the data submission was successfully loaded into the registry and/or included in the benchmarking statistics.

**Outcomes Reports (v2.0)**  
 Outcomes Reports for version 2.0, beginning with 2008Q3. Participants that submitted data during the quarter, or submitted data for any quarter in the current reporting year, will receive their own institution specific Outcomes Report. Participants that have not submitted data (or whose data has not passed the NCDR DQR) will receive a National report containing only National benchmarks.

**On-Demand Reports (v2.0)**  
 On-Demand Reports for version 2.0. Participants that submitted data to the DQR, and passed the Data Assessment level, for any quarter starting with 2008 Q3, may generate On-Demand Reports to view institution specific clinical trends and medication adherence. The reports may be generated at any time, and as often as desired. They provide graphs, tables, and site specific details for concurrent evaluation.

**Outcomes Reports (v1.5)**  
 Reports for version 1.5 of the dataset. If you were a participant prior to 2008Q3, your reports are archived here.

**File Delivery**  
 This functionality provides participant and client-specific delivery of documents and files. Analytic and reporting services, custom reports, or zipped data files are examples of what may be provided via this service. By selecting the email notification feature (located in your individual profile), users can be alerted when new documents or files are available for viewing.

# The DQR



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FOUNDATION

# Export Functionality

The export function of the ACTION Registry-GWTG will allow sites to download and export raw data into an Excel format.

4 Pre-set reports will be available

- » JCAHO Measures
- » Pre Hospital Care EMS and 1<sup>st</sup> Hospital
- » Acute Care Measures
- » Discharge Care Measures

Availability to export

Each section of the data collection form separately or the

The entire form

Individual data elements

# Click on “Data Collection Tool V2.0”

NCDR® Data Home Page - ACTION Registry® - GWTG™ - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://tigger/WebNCDR/ACTION/Data/> Go

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**Data Home Page** [Help](#)

**Quick Links**

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- [Data Home](#)
- [Data Collection Tool \(v2.0\)](#)
- [Upload Data \(v2.0\)](#)
- [DCRI EDC](#)
- [Call for Data Schedule](#)

**Data Collection Tool**

- Data Collection Tool (v2.0)**  
The NCDR Data Collection Tool (v2.0) provides a basic data entry tool for collection and submission of patient data to the ACTION Registry® - GWTG™. This is web-based data collection system, managed by the NCDR® and integrated into the NCDR® DQR process.
- DCRI (EDC)**  
Duke Clinical Research Institute (DCRI) provides a basic data entry tool, referred to as the Electronic Data Collection tool (EDC). This link will direct you to the DCRI website. A separate username and password are required for this system. Contact the Clinical Support Team if you wish to use this application to collect ACTION Registry® - GWTG™ data.

**Upload Data (v2.0)**  
If you are using a third-party software vendor, this page allows you to upload quarterly data submission files to the ACC for DQR processing. The earliest timeframe accepted for upload to version 2 is 2008Q3. Access to this function is controlled by the institution's site manager using the 'Site User Administration' function. To request access to this function, contact your institution's ACTION Registry® - GWTG™ representative.

**Call for Data Schedule**  
The "Call for Data" schedule is a set period in which participants submit a quarter's worth of data to begin the Data Quality Reporting (DQR) process. When a "Call for Data" period begins, participants can upload (if using vendor software), or export (if using the ACC's tool) their quarterly data files. This data goes through the DQR process. At the completion of the DQR process, the data for all institutions is aggregated for the creation of Institutional Outcomes Reports.

<https://tigger/WebNCDR/ACTION/DATA/V2DCT/Default.aspx> Local intranet

start Re... Off... 2 M... 3 I... Po... Mic... 10:54 AM

# Click on the “NCDR Maintenance”

**Patient Management - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Address <https://tigger/Action2/PatientMgmt/PatientMgmt.aspx?Tab=ppm> Go

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Administration Reports Data Resources

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**Patient Management**

Last Name<sup>2000</sup>:  (ARGL)
 First Name<sup>2010</sup>:  (ARGL)
 Middle Name<sup>2020</sup>:  (ARGL)

Birth Date<sup>2050</sup>:  (ARGL)
 SSN<sup>2030</sup>:  (ARGL)
 ☐ SSN N/A<sup>2031</sup> (ARGL)

Patient ID<sup>2040</sup>:  (ARGL)
 Other ID<sup>2045</sup>:  (ARGL)

Sex<sup>2060</sup>:  (ARGL)
 Hispanic or Latino Ethnicity<sup>2076</sup>:  (ARGL)

Race (check all that apply)

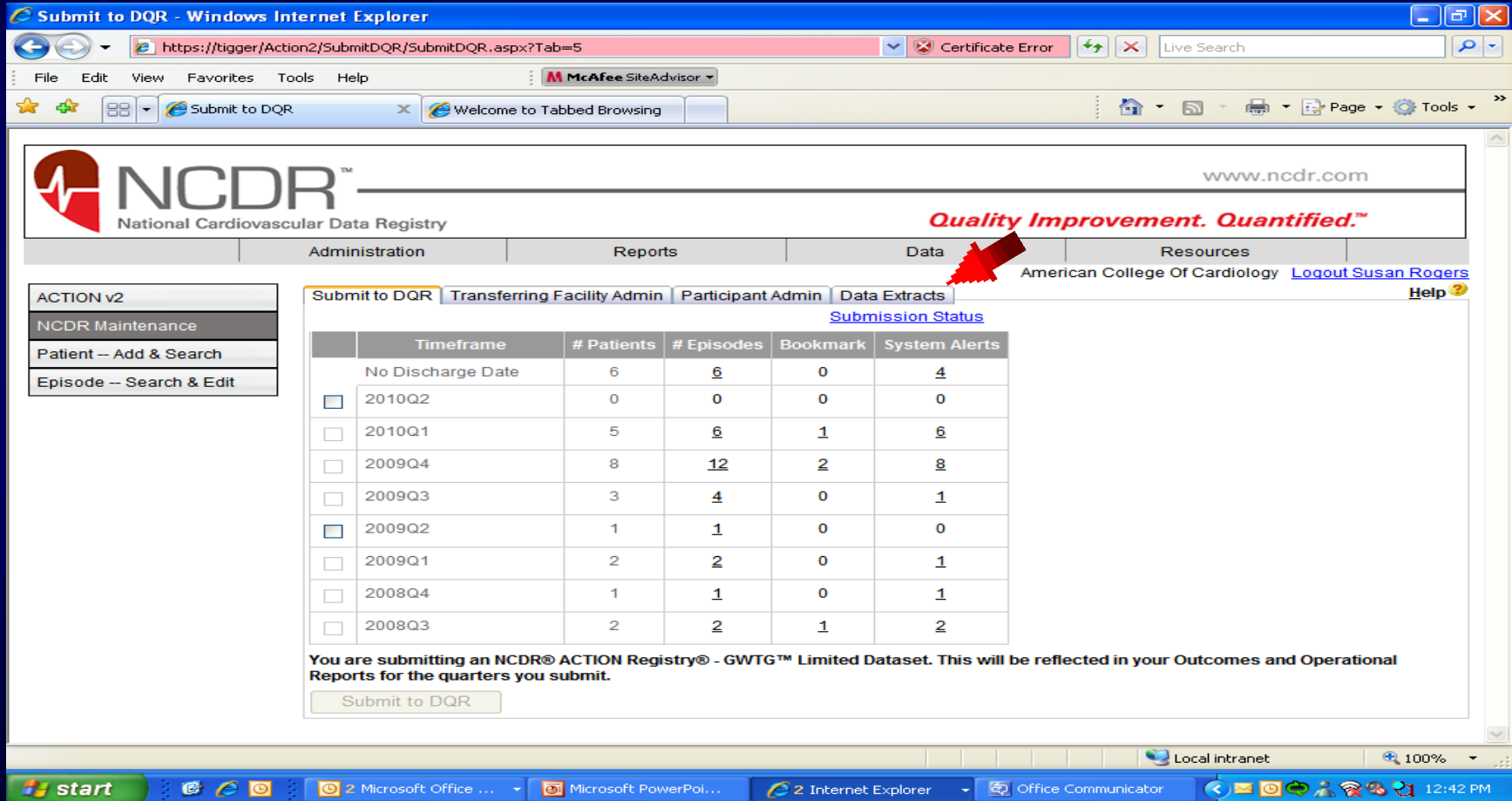
☐ White<sup>2070</sup> (ARGL)
☐ Black/African American<sup>2071</sup> (ARGL)
☐ Asian<sup>2072</sup> (ARGL)

☐ American Indian/Alaskan Native<sup>2073</sup> (ARGL)
☐ Native Hawaiian/Pacific Islander<sup>2074</sup> (ARGL)

Auxiliary 1<sup>2500</sup>:  (ARGL)
 Auxiliary 2<sup>2501</sup>:  (ARGL)



# Click on “Data Extracts”



**Submit to DQR - Windows Internet Explorer**

https://tigger.Action2/SubmitDQR/SubmitDQR.aspx?Tab=5

File Edit View Favorites Tools Help

Submit to DQR Welcome to Tabbed Browsing

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**ACTION v2**

NCDR Maintenance

Patient – Add & Search

Episode – Search & Edit

Submit to DQR Transferring Facility Admin Participant Admin **Data Extracts**

[Submission Status](#)

	Timeframe	# Patients	# Episodes	Bookmark	System Alerts
	No Discharge Date	6	6	0	4
<input type="checkbox"/>	2010Q2	0	0	0	0
<input type="checkbox"/>	2010Q1	5	6	1	6
<input type="checkbox"/>	2009Q4	8	12	2	8
<input type="checkbox"/>	2009Q3	3	4	0	1
<input checked="" type="checkbox"/>	2009Q2	1	1	0	0
<input type="checkbox"/>	2009Q1	2	2	0	1
<input type="checkbox"/>	2008Q4	1	1	0	1
<input type="checkbox"/>	2008Q3	2	2	1	2


You are submitting an NCDR® ACTION Registry® - GWTG™ Limited Dataset. This will be reflected in your Outcomes and Operational Reports for the quarters you submit.

[Submit to DQR](#)

Local intranet 100%

start 2 Microsoft Office ... Microsoft PowerPoi... 2 Internet Explorer Office Communicator 12:42 PM

# The Export Page



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ACTIONS v2
NCDR Maintenance
Patient -- Add & Search
Episode -- Search & Edit

Submit to DQR
Transferring Facility Admin
Participant Admin
Data Extracts

999999

Select Discharge
from
(mm/dd/yyyy)
to
(mm/dd/yyyy)

Or
☐ Export records with no discharge date.

Select an Extract
-- Please Select --

Select Elements

☐ Select All Elements

Select a Download Format
Microsoft Excel

Download Extract

Note: NCDR PatientID, LastName, FirstName, MidName, OtherID, ArrivalDate, DCDate will appear on all Extracts.

# Questions ?

**ACTION Registry-GWTG**  
**Please call (800) 257-4737**  
**email at [ncdr@acc.org](mailto:ncdr@acc.org)**